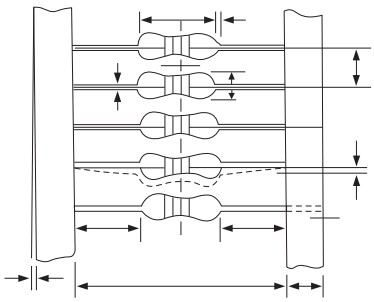
CR SERIES FIXED CARBON FILM RESISTOR

ABEL PRECISION CO.,LTD

■ FEATURES

- Industry's lowest cost and widest selection
- Excellent long-time stability
- Miniature size(CRS 1/2W)result in 50% space saving
- Coating Color: Brown (CR 1/8W~CR1/2W),
  Pink (CRS1/2W, CRS1/4W)
- Marking: Color Code



■ TAPING DIMENSIONS

Unit: mm

Type	W	L1	d	L2	P	D
CR 1/8W	52 ± 1.0	24.5 ± 1.0	0.40 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
CR 1/6W	52 ± 1.0	24.5 ± 1.0	0.40 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
CRS 1/4W	52 ± 1.0	24.5 ± 1.0	0.40 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
CR 1/4W	52 ± 1.0	23.0 ± 1.0	0.50 ± 0.05	6.4 ± 0.2	5.0 ± 1.0	2.4 ± 0.2
CRS 1/2W	52 ± 1.0	23.0 ± 1.0	0.50 ± 0.05	6.4 ± 0.2	5.0 ± 1.0	2.4 ± 0.2
CR 1/2W	52 ± 1.0	21.5 ± 1.0	0.60 ± 0.05	9.0 ± 0.4	5.0 ± 1.0	3.3 ± 0.2

■ SPECIFICATIONS

Type	Power Rating (W)	Max. Working Voltage(V)	Max. Overload Voltage(V)	Rating Ambient Temp.	Operating Temp. Range	Resistance Range	
						E-24-G(±2%)	E-24-J(±5%)
CR 1/8	0.125	150	300	+70°C	-55°C~ +155°C	10-1M	4.7-1M
CR 1/6	0.167	150	300			10-1M	4.7-1M
CRS 1/4	0.25	250	500			10-1M	1-4.7M
CR 1/4	0.25	250	500			10-1M	1-4.7M
CRS 1/2	0.5	300	600			10-1M	1-4.7M
CR 1/2	0.5	300	600			10-1M	1-5.6M

*Consult factory for resistance values outside of above standard range.
**Voltage rating is determined by E= $\sqrt{P \cdot R}$, E should not exceed Max. Working Voltage.

■ CHARACTERISTICS

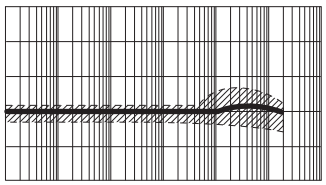
Characteristics	Performance
Short Time Over Load	± (1.0%+0.05Ω)
Dielectric Withstanding Voltage	± (1.0%+0.05Ω)
Resistance To Soldering Heat	± (1.0%+0.05Ω)
Temperature Cycling	± (1.0%+0.05Ω)
Low Temp. Operation	± (1.0%+0.05Ω)
Terminal Strength	± (1.0%+0.05Ω)
Moisture Resistance	± (5.0%+0.05Ω)
Load Life	± (3.0%+0.05Ω)

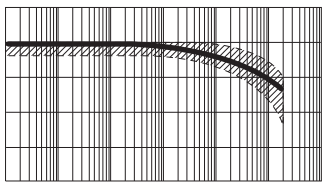
■ HOW TO ORDER

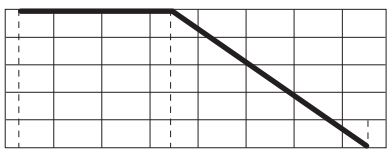
CR	1/8W	100Ω	J	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance(±2%, ±5%), ±5% is standard
5. Packing: "TB" is Tape & Ammo Box
   "TR" is Tape & Reel

■ DERATING CURVE

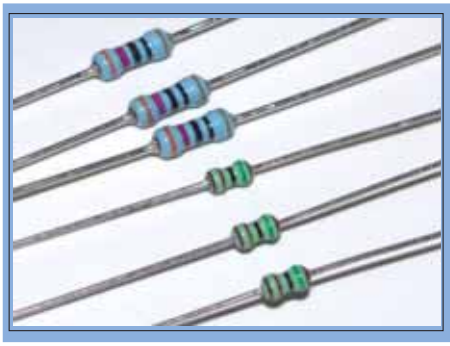






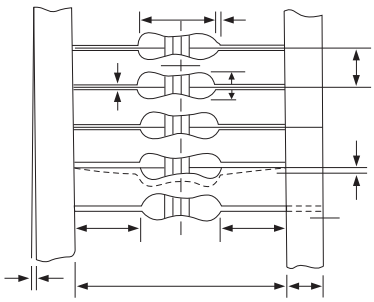
MR SERIES FIXED METAL FILM RESISTOR

ABEL PRECISION CO.,LTD



■ FEATURES

- Precision performance, economical cost, improved stability
- Low temperature coefficient, low current noise
- Miniature size(MRS 1/2W)result in 50% space saving
- Coating Color: Light Blue (MR 1/8W~MR1/2W),
  Light Green (MRS1/2W, 1/4W)
- Marking: Color Code



■ TAPING DIMENSIONS

Unit: mm

Type	W	L1	d	L2	P	D
MR 1/8W	52 ± 1.0	24.5 ± 1.0	0.40 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
MR 1/6W	52 ± 1.0	24.5 ± 1.0	0.40 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
MRS 1/4W	52 ± 1.0	24.5 ± 1.0	0.40 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
MR 1/4W	52 ± 1.0	23.0 ± 1.0	0.50 ± 0.05	6.4 ± 0.2	5.0 ± 1.0	2.4 ± 0.2
MRS 1/2W	52 ± 1.0	23.0 ± 1.0	0.50 ± 0.05	6.4 ± 0.2	5.0 ± 1.0	2.4 ± 0.2
MR 1/2W	52 ± 1.0	21.5 ± 1.0	0.60 ± 0.05	9.0 ± 0.4	5.0 ± 1.0	3.3 ± 0.2

■ SPECIFICATIONS

Type	Power Rating (W)	Max. Working Voltage(V)	Max. Overload Voltage(V)	Rating Ambient Temp.	Operating Temp. Range	Resistance Range	
						E-24-G(±2%)	E-24-J(±5%)
MR 1/8	0.125	150	300	+70°C	-55°C~ +155°C	10-1M	4.7-1M
MR 1/6	0.167	150	300			10-1M	4.7-1M
MRS 1/4	0.25	250	500			10-1M	4.7-1M
MR 1/4	0.25	250	500			10-1M	4.7-1M
MRS 1/2	0.5	300	600			10-1M	4.7-1M
MR 1/2	0.5	300	600			10-1M	4.7-1M

*Consult factory for resistance values outside of above standard range.
**Voltage rating is determined by E= $\sqrt{P \cdot R}$, E should not exceed Max. Working Voltage.

■ CHARACTERISTICS

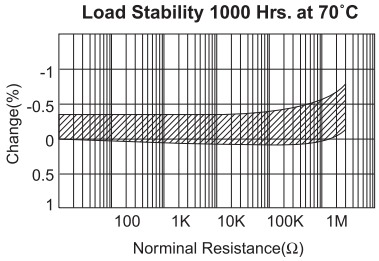
Characteristics	Performance
Short Time Over Load	± (1.0%+0.05Ω)
Dielectric Withstanding Voltage	± (1.0%+0.05Ω)
Resistance To Soldering Heat	± (1.0%+0.05Ω)
Temperature Cycling	± (1.0%+0.05Ω)
Low Temp. Operation	± (1.0%+0.05Ω)
Terminal Strength	± (1.0%+0.05Ω)
Moisture Resistance	± (5.0%+0.05Ω)
Load Life	± (3.0%+0.05Ω)

■ HOW TO ORDER

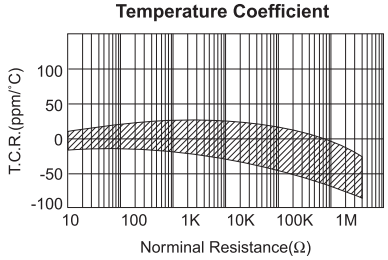
MR	1/8W	10Ω	J	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance(±2%, ±5%), ±5% is standard
5. Packing: "TB" is Tape & Ammo Box
   "TR" is Tape & Reel

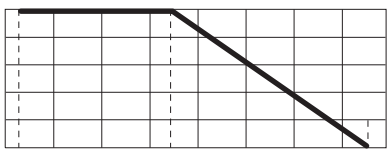
Load Stability 1000 Hrs. at 70°C



Temperature Coefficient



■ DERATING CURVE

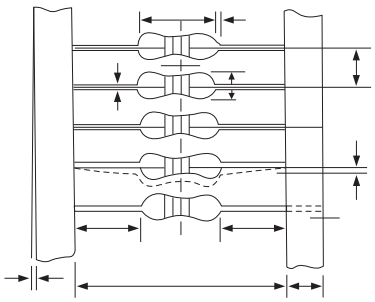


ASR SERIES FIXED ANTI SURGE RESISTOR

ABEL PRECISION CO.,LTD

■ FEATURES

- Excellent anti-surge characteristics
- Stable characteristics through the resistance range
- Coating color : Dark Brown
- Marking : Color code



■ TAPING DIMENSIONS

Unit: mm

Type	W	L1	d	L2	P	D
ASR 1/2W	52 ± 1.0	21.5 ± 1.0	0.60 ± 0.05	9.0 ± 0.4	5.0 ± 1.0	3.3 ± 0.20
ASR 1W	64 ± 1.0	26.0 ± 1.0	0.70 ± 0.05	12 ± 1.0	5.0 ± 1.0	4.3 ± 0.23

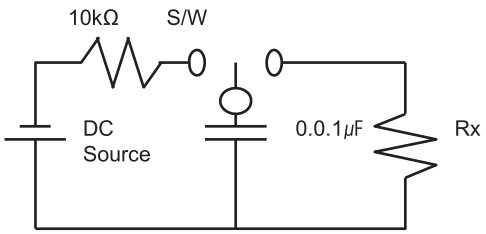
■ SPECIFICATIONS

Type	Power Rating (W)	Max. Working Voltage(V)	Max. Overload Voltage(V)	Rating Ambient Temp.(℃)	Operating Temp. Range (℃)	Resistance Range(Ω)	Resistance Tolerance(%)
ASR 1/2W	0.5	700	1,000	+70℃	-55℃~ +155℃	3R3-100M	J(±5%)
ASR 1W	1	1,000	1,500			470K-10M	K(±10%)

*Consult factory for resistance values outside of above standard range.
**Voltage rating is determined by E= $\sqrt{P \cdot R}$, E should not exceed Max. Working Voltage.

■ ANTI SURGE CHARACTERISTICS

Resistance	Applied Voltage(V)	Resistance Change(%)
10kΩ below	5,000	Within ± 10
100kΩ below	7,000	
100kΩ above	10,000	



2.5 Sec ON
2.5 Sec OFF
10 Cycles

■ HOW TO ORDER

ASR	1/2W	1MΩ	K	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance
5. Packing: “TB” is Tape & Ammo Box
   “TR” is Tape & Reel

MOR SERIES FIXED METAL OXIDE FILM RESISTOR

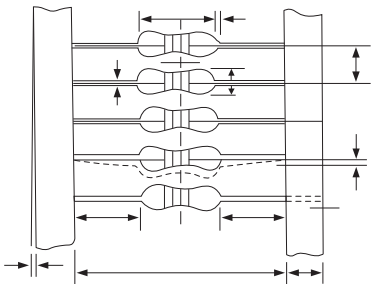
ABEL PRECISION CO.,LTD

■ FEATURES

- Excellent mechanical and thermal shock at a high temperature
- Flame proof overloaded owing to the flame resistant coating
- Suitable to pulse circuits
- Coating Color: Blue(MOR 1W, 2W), Green(MORS 1W, 2W, 3W)
- Miniature size(MORS 1W, 2W, 3W)result in 50% space saving
- Marking: Color Code

■ TAPING DIMENSIONS

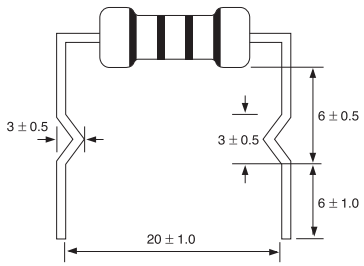
Unit: mm



Type	W	L1	d	L2	P	D
MORS 1W	52 ± 1.0	21.5 ± 1.0	0.60 ± 0.05	9.0 ± 0.4	5.0 ± 1.0	3.3 ± 0.2
MOR 1W	64 ± 1.0	26 ± 1.0	0.70 ± 0.05	12.0 ± 1.0	5.0 ± 1.0	3.8 ± 0.3
MORS 2W	64 ± 1.0	26 ± 1.0	0.70 ± 0.05	12.0 ± 1.0	5.0 ± 1.0	3.8 ± 0.3
MOR 2W	64 ± 1.0	24 ± 1.0	0.80 ± 0.05	16.0 ± 1.0	10.0 ± 1.0	5.6 ± 0.5
MORS 3W	64 ± 1.0	24 ± 1.0	0.80 ± 0.05	16.0 ± 1.0	10.0 ± 1.0	5.6 ± 0.5

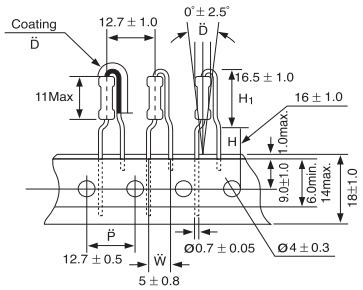
■ SELF-STANDING LEAD TYPE

• M-FORMING TYPE



Type	DIMENSIONS(mm)			
	P	W	H1	H
MOR 1W R-J	12.7±0.5	5±0.8	16.5±1.0	16.0±1.0
MORS 2W R-J	12.7 ±0.5	5±0.8	16.5±1.0	16.0±1.0

■ R-FORMING TYPE



■ SPECIFICATIONS

Type	Power Rating (W)	Max. Working Voltage(V)	Max. Overload Voltage(V)	Rating Ambient Temp.	Operating Temp. Range	Resistance Range	
						E-24-G(±2%)	E-24-J(±5%)
MORS 1W	1	350	600	+70℃	-55℃~ +235℃	10-470K	1-470K
MOR 1W	1	350	600			10-470K	1-470K
MORS 2W	2	350	600			10-470K	1-470K
MOR 2W	2	350	600			10-470K	1-470K
MORS 3W	3	400	700			10-470K	1-470K

*Consult factory for resistance values outside of above standard range & tolerance.
**Voltage rating is determined by E= $\sqrt{P \cdot R}$, E should not exceed Max. Working Voltage.

■ CHARACTERISTICS

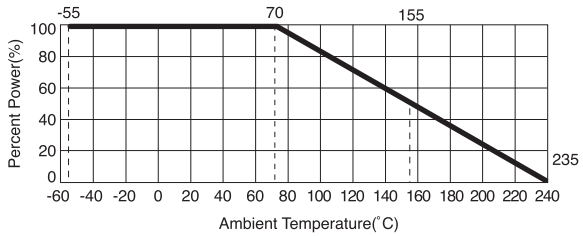
Characteristics	Performance
Short Time Over Load	± (1.0%+0.05Ω)
Dielectric Withstanding Voltage	± (1.0%+0.05Ω)
Resistance To Soldering Heat	± (1.0%+0.05Ω)
Terminal Strength	± (1.0%+0.05Ω)
Moisture Resistance	± (5.0%+0.05Ω)
Load Life	± (5.0%+0.05Ω)

■ HOW TO ORDER

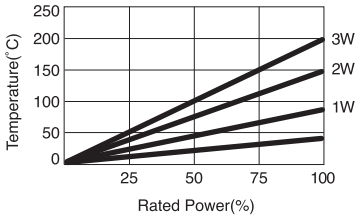
MOR	2W	10Ω	J	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance(±2%, ±5%), ±5% is standard
5. Packing: TB is Tape & Ammo Box

■ DERATING CURVE

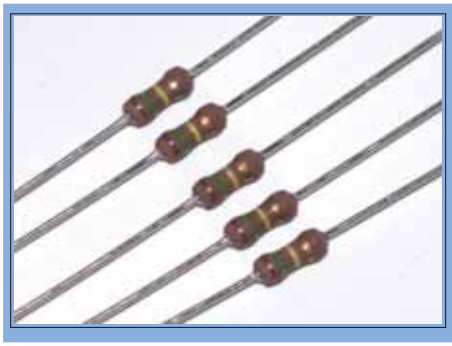


■ SURFACE TEMPERATURE RISE



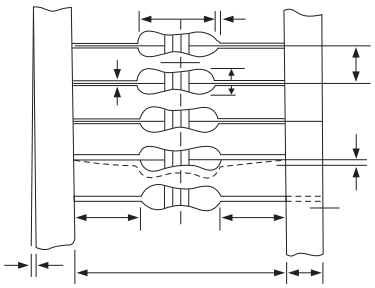
MORSS SERIES DOUBLE MINIATURE TYPE FIXED METAL OXIDE FILM RESISTOR

ABEL PRECISION CO.,LTD



■ FEATURES

- High power in miniature size, Flameproof construction
- MORSS series are similar to the original MOR models but due to improved design result in wattage ratings up to double those of the same body size
- Increased power is achieved by a special film process and high grade ceramic(alumina) rods
- MORSS series can provide you a compact design and improve your productivity
- Coating Color: Dark Brown
- Marking: Color Code



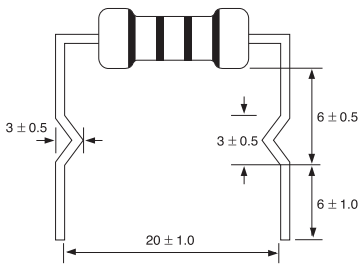
■ TAPING DIMENSIONS

Unit: mm

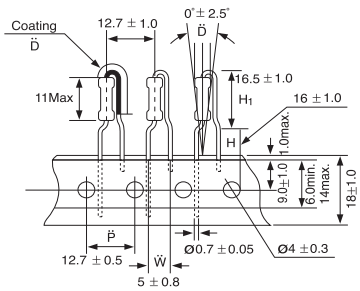
Type	W	L1	d	L2	P	D
MORSS 1W	52 ± 1.0	22.6 ± 1.0	0.50 ± 0.05	6.4 ± 0.4	5.0 ± 1.0	2.4 ± 0.2
MORSS 2W	52 ± 1.0	21.5 ± 1.0	0.60 ± 0.05	9.0 ± 1.0	5.0 ± 1.0	3.8 ± 0.3
	64 ± 1.0	27.5 ± 1.0				
MORSS 3W	52 ± 1.0	21.5 ± 1.0	0.70± 0.05	9.0 ± 1.0	5.0 ± 1.0	3.8 ± 0.3
	64 ± 1.0	27.5 ± 1.0				

■ SELF-STANDING LEAD TYPE

• M-FORMING TYPE



• R-FORMING TYPE



■ SPECIFICATIONS

Type	Power Rating (W)	Max. Working Voltage(V)	Max. Overload Voltage(V)	Rating Ambient Temp.	Operating Temp. Range	Resistance Range	
						E-24-G(±2%)	E-24-J(±5%)
MORSS 1W	1	350	600	+70°C	-55°C ~ +235°C	10-470K	1-470K
MORSS 2W	2						
MORSS 3W	3						

*Consult factory for resistance values outside of above standard range & tolerance.
**Voltage rating is determined by E= $\sqrt{P \cdot R}$, E should not exceed Max. Working Voltage.

■ CHARACTERISTICS

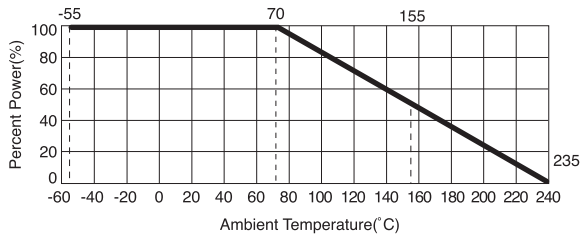
Characteristics	Performance
Short Time Over Load	± (1.0%+0.05Ω)
Dielectric Withstanding Voltage	± (1.0%+0.05Ω)
Resistance To Soldering Heat	± (1.0%+0.05Ω)
Terminal Strength	± (1.0%+0.05Ω)
Moisture Resistance	± (5.0%+0.05Ω)
Load Life	± (5.0%+0.05Ω)

■ HOW TO ORDER

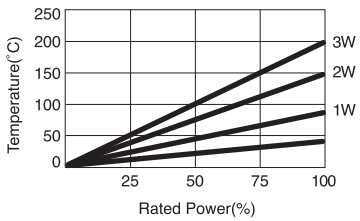
MORSS	2W	10Ω	J	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance(±2%, ±5%), ±5% is standard
5. Packing: TB is Tape & Ammo Box

■ DERATING CURVE



■ SURFACE TEMPERATURE RISE

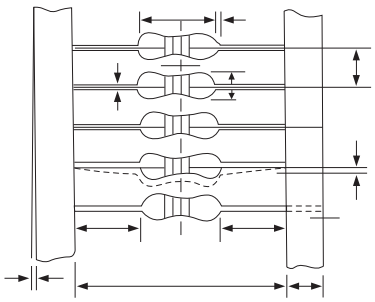


MG SERIES FIXED METAL GLAZE RESISTOR

ABEL PRECISION CO.,LTD

■ FEATURES

- Stable performance against high temperature and voltage
- Good performance in enduring moisture and overload capability
- Coating Color: Pink
- Marking: Color Code



■ TAPING DIMENSIONS

Unit: mm

Type	W	L1	d	L2	P	D
MG 1/4W	52 ± 1.0	24.5 ± 1.0	0.50 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
MG 1/2W	52 ± 1.0	24.5 ± 1.0	0.60 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
MG 1W	52 ± 1.0	24.5 ± 1.0	0.70 ± 0.05	3.2 ± 0.2	5.0 ± 1.0	1.8 ± 0.2
MG 2W	52 ± 1.0	23.0 ± 1.0	0.80 ± 0.05	6.4 ± 0.2	5.0 ± 1.0	2.4 ± 0.2

■ SPECIFICATIONS

Type	Power Rating (W)	Max. Working Voltage(V)	Max. Overload Voltage(V)	Resistance Range F(±1%)E96 B(±0.1%)E192	Resistance Range G(±2%) J(±5%)E24	T.C.R (PPM/℃)	Rating Ambient Temp.	Operating Temp. Range
MR 1/8	0.25	500	700	100KΩ - 22MΩ	100KΩ - 100MΩ	±100	+70℃	-55℃~ +155℃
MR 1/6	0.5	700	1,000	100KΩ - 33MΩ	100KΩ - 1GΩ			
MRS 1/4	1	1,000	1,500	100KΩ - 33MΩ	100KΩ - 100M Ω			
MR 1/4	2	1,200	1,500	100KΩ - 33MΩ	100KΩ - 100M Ω			
MRS 1/2	3	1,500	2,000	100KΩ - 33MΩ	100KΩ - 100M Ω			
MR 1/2	4	1,500	2,000	100KΩ - 33MΩ	100KΩ - 100M Ω			

*Consult factory for resistance values outside of above standard range.
**Voltage rating is determined by E= $\sqrt{P \cdot R}$, E should not exceed Max. Working Voltage.

■ CHARACTERISTICS

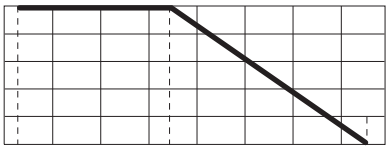
Characteristics	Performance
Short Time Over Load	± (1.0%+0.05Ω)
Dielectric Withstanding Voltage	± (1.0%+0.05Ω)
Resistance To Soldering Heat	± (1.0%+0.05Ω)
Temperature Cycling	± (1.0%+0.05Ω)
Low Temp. Operation	± (1.0%+0.05Ω)
Terminal Strength	± (1.0%+0.05Ω)
Moisture Resistance	± (5.0%+0.05Ω)
Load Life	± (3.0%+0.05Ω)

■ HOW TO ORDER

MG	1/2W	10MΩ	F	TB
1	2	3	4	5

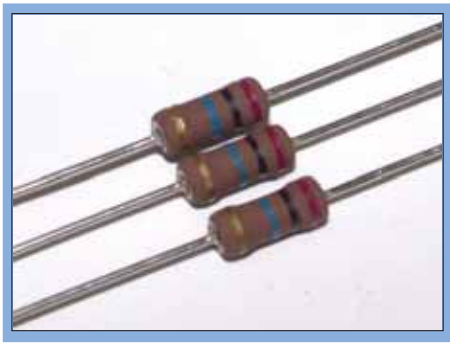
1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance
5. Packing: “TB” is Tape & Ammo Box
   “TR” is Tape & Reel

■ DERATING CURVE



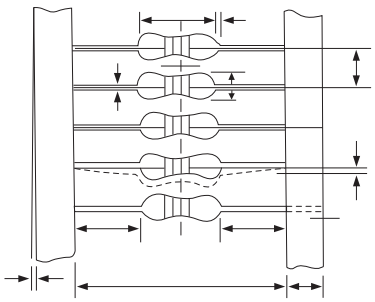
HVR SERIES HIGH VOLTAGE / VALUE RESISTOR

ABEL PRECISION CO.,LTD



■ FEATURES

- Mechanically strong, light and compact
- Resistance extent that do manufacture possibility is wide
- Fatal badness as disconnection of a wire hardly happens
- Restriction of component material fare, incombustible is difficult
- Product more than 2W is non-inductive type and is very excellent in high frequency special quality
- Coating color : Brown
- Marking : Color code



■ TAPING DIMENSIONS

Unit: mm

Type	W	L1	d	L2	P	D
HVR 1/4W	52 ± 1.0	23.0 ± 1.0	0.50 ± 0.05	6.7 ± 0.2	5.0 ± 1.0	2.6 ± 0.2
HVR 1/2W	52 ± 1.0	21.5 ± 1.0	0.60 ± 0.05	9.0 ± 0.4	5.0 ± 1.0	3.7 ± 0.2
HVR 1W	52 ± 1.0	20.0 ± 1.0	0.70 ± 0.05	12 ± 1.0	5.0 ± 1.0	3.7 ± 0.2

■ TAPING DIMENSIONS

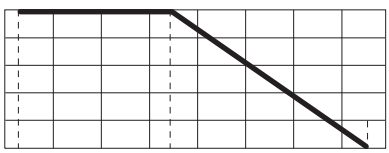
This specifications apply about carbon membrane static sieve resistance (High Voltage/Value Resistor) used on air ventilation cleaner, computer, control device, stereo and TV etc, mainly is manufactured by ABEL PRECISION CO., LTD.

■ SPECIFICATIONS

Type	Power Rating (W)	Max. Working Voltage(V)	Max. Overload Voltage(V)	Rating Ambient Temp.	Operating Temp. Range	Resistance Range	Established form Resistance	Resistance Tolerance (%)
HVR 1/4W	0.25	1,000	2,000	+70℃	-55℃~ +155℃	50MΩ - 500MΩ	Telexing Line	F(±1%)-100MΩ Below G(±2%)-100MΩ Below J(±5%) - Full Spec K(±10%) - Full Spec M(±20%) - Full Spec
HVR1/2W	0.5	2,000	4,000			50MΩ - 1GΩ		
HVR 1W	1	3,000	6,000			50MΩ - 1GΩ		
HVR 2W	2	5,000	10,000			500KΩ - 10GΩ	Non Inductive	
HVR 5W	5	10,000	20,000			500KΩ - 10GΩ		
HVR 7W	7	15,000	30,000			500KΩ - 10GΩ		
HVR 12W	12	25,000	45,000			500KΩ - 10GΩ		
HVR 17W	17	35,000	55,000			500KΩ - 10GΩ		

*Consult factory for resistance values outside of above standard range.
**Voltage rating is determined by E= $\sqrt{P \cdot R}$, E should not exceed Max. Working Voltage.

■ DERATING CURVE



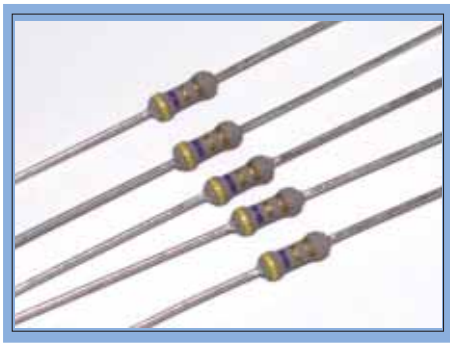
■ HOW TO ORDER

HVR	1/2W	560MΩ	F	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance
5. Packing: “TB” is Tape & Ammo Box

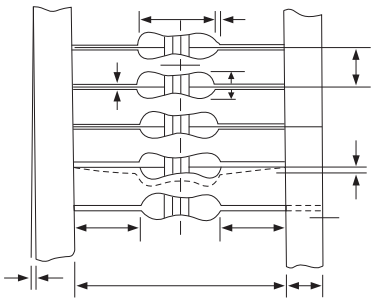
FR SERIES FIXED FUSIBLE RESISTOR

ABEL PRECISION CO.,LTD



■ FEATURES

- Provide an excellent fusing characteristic for CIRCUIT protection in case of overload or component failure.
- Opening th circuit safety without burning and flaming at a emergency overload due to make use of flame proof coating.
- Coating Color: Gray
- Marking: Color Code



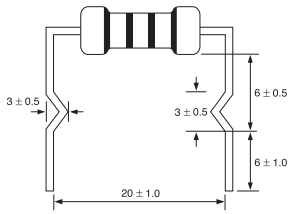
■ TAPING DIMENSIONS

Unit: mm

Type	W	L1	d	L2	P	D
FR 1/4W	52 ± 1.0	23 ± 1.0	0.50 ± 0.05	6.4 ± 0.2	5.0 ± 1.0	2.4 ± 0.2
FR 1/2W	52 ± 1.0	21.5 ± 1.0	0.60 ± 0.05	9.0 ± 0.4	5.0 ± 1.0	3.3 ± 0.2
FR 1W	64 ± 1.0	26 ± 1.0	0.70 ± 0.05	12.0 ± 1.0	5.0 ± 1.0	4.3 ± 0.3
FR 2W	64 ± 1.0	24 ± 1.0	0.80 ± 0.05	16.0 ± 1.0	10.0 ± 1.0	6.0 ± 0.5
FR 3W	64 ± 1.0	24 ± 1.0	0.80 ± 0.05	16.0 ± 1.0	10.0 ± 1.0	6.0 ± 0.5

■ SELF-STANDING LEAD TYPE

• M-FORMING TYPE



■ SPECIFICATIONS

Type	Power Rating(W)	Max. Open circuit Voltage(V)	Resistance Range E-24-J(±5%)	Operating Temp. Range
FR 1/4W	0.25	220	0.22-1K	-25 ~ +155℃
FR 1/2W	0.5	250		
FR 1W	1.0.	300		
FR 2W	2.0.	300		
FR 3W	3.0	350		

■ HOW TO ORDER

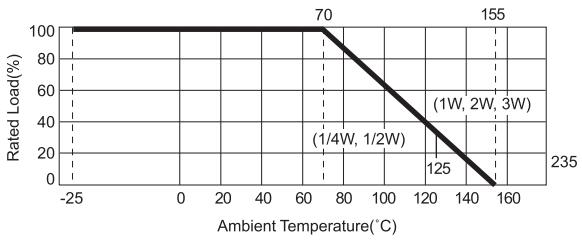
FR	1/2W	2E2	J	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance(±5% is standard)
5. Packing: TB is Tape & Ammo Box

■ CHARACTERISTICS

Characteristics	Performance	Remark
Short Time Over Load	± (1%+0.05Ω)	Voltage Rating × 2.5 5 Sec
Resistance To Soldering	± (1%+0.05Ω)	350℃ / 3Sec
Load Life	± (5%+0.05Ω)	1000Hrs
Fusing Characteristic	30 Sec max. <1Ω 60Sec max.	<1Ω: P/PR = 25 Times ≧ 1Ω: P/PR = 16 Times * P: Applied Power PR: Power Rating
Residual Resistance	Over than 100 times of the nominal resistance	

■ DERATING CURVE

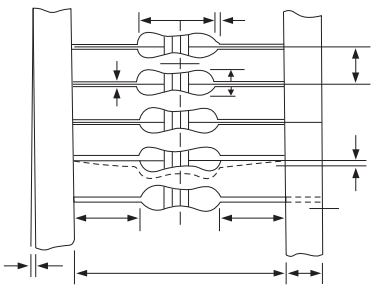


WNP SERIES NON-INDUCTIVE WIRE WOUND RESISTOR

ABEL PRECISION CO.,LTD

■ FEATURES

- Coated with silicone resin of high resistance
- Ceramic rod results in performance levels far superior to general fiberglass core.
- Available to high resistance in miniature size(WNPS 2W, 3W) by automatic winding.
- Coating Color: Green
- Marking: Color Code



■ TAPING DIMENSIONS

Unit: mm

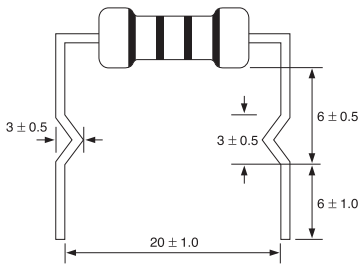
Type	W	L1	d	L2	P	D
WNP 1W	64 ± 1.0	26 ± 1.0	0.70 ± 0.05	12 ± 1.0	5.0 ± 1.0	4.3 ± 0.7
WNPS 2W	64 ± 1.0	26 ± 1.0	0.70 ± 0.05	12 ± 1.0	5.0 ± 1.0	4.3 ± 0.7
WNP 2W	64 ± 1.0	24 ± 1.0	0.80 ± 0.05	16 ± 1.0	10.0 ± 1.0	6.0 ± 1.0
WNPS 3W	64 ± 1.0	24 ± 1.0	0.80 ± 0.05	16 ± 1.0	10.0 ± 1.0	6.0 ± 1.0

■ SPECIFICATIONS

Type	Resistance Range	Operating Temp. Rang
	E-96(±1%), E-24-G(±2%), J(±5%)	
WNP 1W	0.1-1Ω	-40℃ ~+155℃
WNPS 2W	0.1-2Ω	
WNP 2W	0.1-2Ω	
WNPS 3W	0.1-2Ω	

■ SELF-STANDING LEAD TYPE

• M-FORMING TYPE



■ CHARACTERISTICS

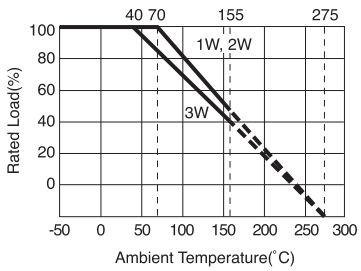
Characteristics	Performance
Short Time Over Load	± (1%+0.05Ω)
Dielectric Withstanding Voltage	± (1%+0.05Ω)
Resistance To Soldering Heat	± (1%+0.05Ω)
Moisture Resistance	± (5%+0.05Ω)
Load Life	± (5%+0.05Ω)
Resistance Temp. Coefficient	R ≧ 0.5Ω: ±260ppm/℃ R < 0.5Ω: ±400ppm/℃
Inductance	290mH, Intial resistance Value ≥ ±20%

■ HOW TO ORDER

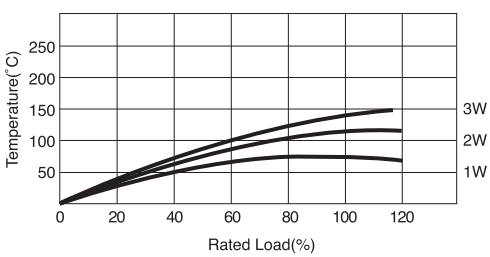
WNP	2W	10Ω	J	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance(±1%, ±2%, ±5%)
5. Packing: TB is Tape & Ammo Box

■ DERATING CURVE



■ SURFACE TEMPERATURE RISE

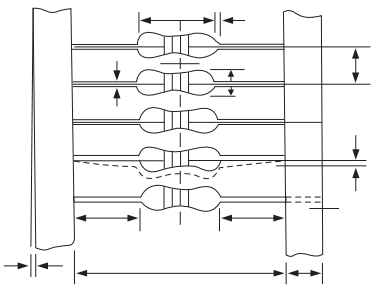


WRP SERIES POWER TYPE SILICONE COATED WIRE WOUND RESISTOR

ABEL PRECISION CO.,LTD

■ FEATURES

- Coated with silicone resin of high resistance
- Ceramic rod results in performance levels far superior to general fiberglass core.
- Available to high resistance by automatic winding.
- Coating Color: Pink(WRP)
- Marking: Color Code



■ TAPING DIMENSIONS

Unit: mm

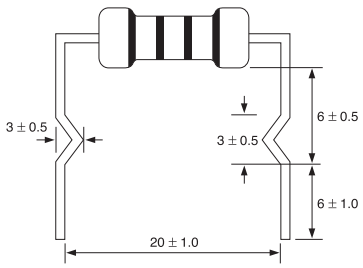
Type	W	L1	d	L2	P	D
WRP 1W	64 ± 1.0	26 ± 1.0	0.70 ± 0.05	12 ± 1.0	5.0 ± 1.0	4.3 ± 0.7
WRPS 2W	64 ± 1.0	26 ± 1.0	0.70 ± 0.05	12 ± 1.0	5.0 ± 1.0	4.3 ± 0.7
WRP 2W	64 ± 1.0	24 ± 1.0	0.80 ± 0.05	16 ± 1.0	10.0 ± 1.0	6.0 ± 1.0
WRPS 3W	64 ± 1.0	24 ± 1.0	0.80 ± 0.05	16 ± 1.0	10.0 ± 1.0	6.0 ± 1.0

■ SPECIFICATIONS

Type	Resistance Range	Operating Temp. Rang
	E-96(±1%), E-24-G(±2%), J(±5%)	
WRP 1W	0.1-1Ω	-40℃ ~+155℃
WRPS 2W	0.1-2Ω	
WRP 2W	0.1-2Ω	
WRPS 3W	0.1-2Ω	

■ SELF-STANDING LEAD TYPE

• M-FORMING TYPE



■ CHARACTERISTICS

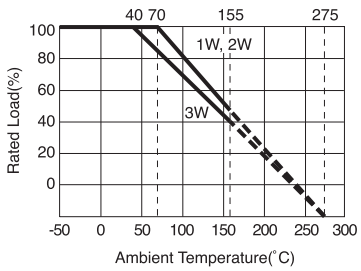
Characteristics	Performance
Short Time Over Load	± (1%+0.05Ω)
Dielectric Withstanding Voltage	± (1%+0.05Ω)
Resistance To Soldering Heat	± (1%+0.05Ω)
Moisture Resistance	± (5%+0.05Ω)
Load Life	± (5%+0.05Ω)
Resistance Temp. Coefficient	R ≧ 0.5Ω: ±260ppm/℃ R < 0.5Ω: ±400ppm/℃
Inductance	290mH, Intial resistance Value ≥ ±20%

■ HOW TO ORDER

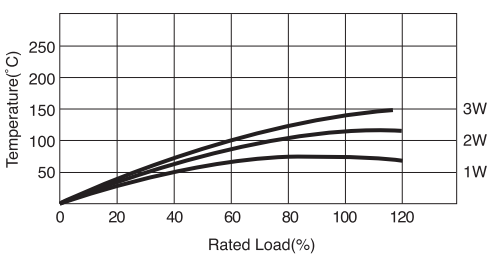
WRP	2W	10Ω	J	TB
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance(±1%, ±2%, ±5%)
5. Packing: TB is Tape & Ammo Box

■ DERATING CURVE

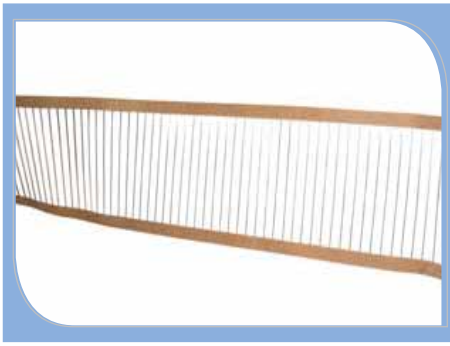


■ SURFACE TEMPERATURE RISE



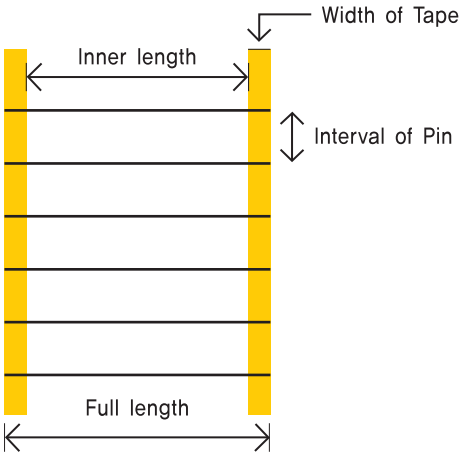
JUMPER WIRE

ABEL PRECISION CO.,LTD



■ FEATURES

- Specialized copper wire manufacturer
- High power rating
- SGS / ISO 9001 / ROHS



〈 Dimension 〉

- Lead Wire Type : TAD
- Plating : Hot Dipping
- Application : for the pattern connection in PCB (Auto inserting, Sequencer)

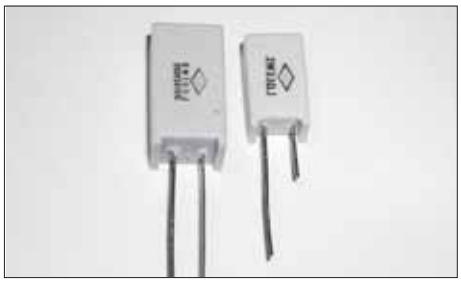
DESC / Diameter	Interval of Pin (cm)	Inner Length (mm)	Width of tape (cm)	Full length (mm)
0.43	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.45	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.50	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.53	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.55	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.58	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.60	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.65	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.67	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.70	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.77	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
0.80	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15
1.00	5 ± 0.1	26~52	6.2 ± 0.15	64 ± 0.15

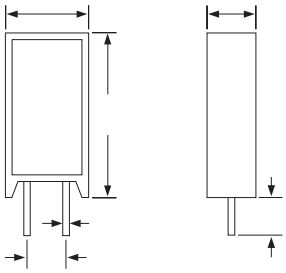
WRC SERIES

ABEL PRECISION CO.,LTD

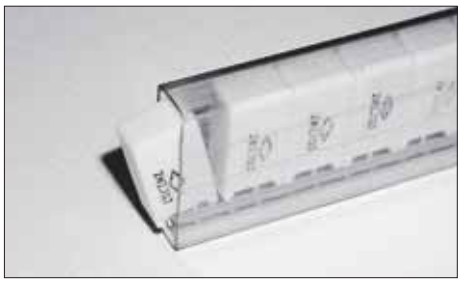
- POWER TYPE WIRE WOUND CEMENT RESISTOR WITH GLASS ROD ⇒ WGR
- POWER TYPE WIRE WOUND CEMENT RESISTOR WITH CERAMIC ROD ⇒ WCR
- POWER TYPE CEMENT RESISTOR WITH METAL OXIDE FILM RESISTOR ⇒ WMR

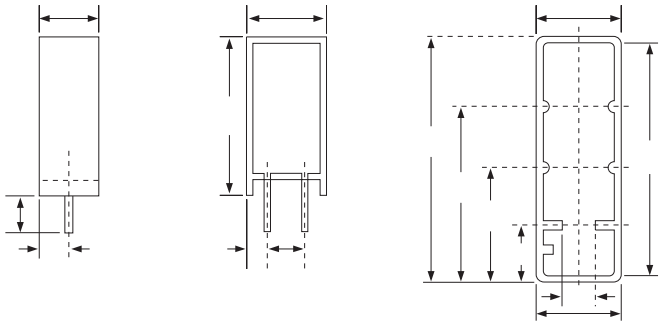
■ R-TYPE



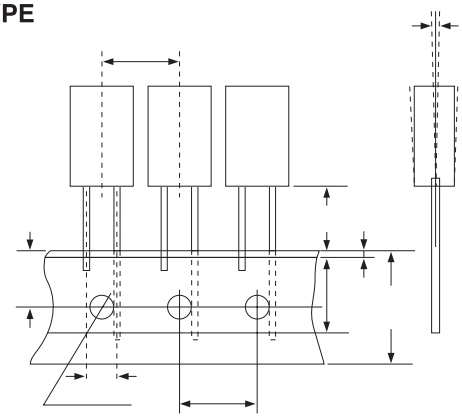


Type	Power Rating	Resistance Range E-24-J(±5%) or G(±2%)		Dimensions(mm)				
		WCR	WMR	A ± 1.0	B ± 1.0	C ± 1.0	P ± 1.0	d
WRC 2R	2W	0.1-20	20-100K	11	7.5	20.5	5.0	0.8
WRC 3R	3W	0.1-20	20-100K	11	7.5	20.5	5.0	0.8
WRC 5R	5W	0.1-50	50-100K	12.7	10	25.4	5.0	0.8
WRC 7R	7W	0.1-100	100-100K	12.7	10	38.6	5.0	0.8





■ RT-TYPE



■ STICK CASE

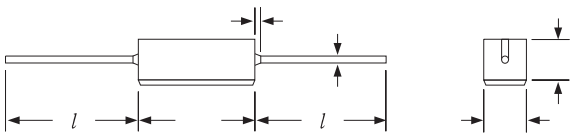
W✕H✕L(mm)	9.8✕29.2✕580	Remarks
Q'ty(PCS)	50	2W,3W
	40	5W

■ DIMENSIONS

Unit: mm

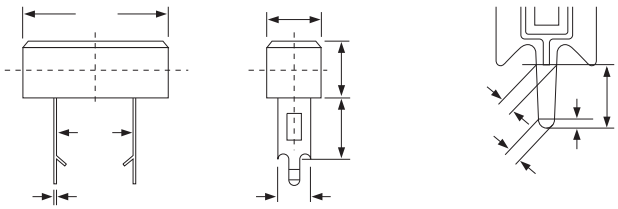
	A ± 0.2	B ± 0.2	C ± 1	D ± 0.5	E ± 0.3	F ± 0.5	G ± 0.5
2RT	5.0	3.0	20.5	11.0	3.5	4.5	7.5
3RT	5.0	3.0	20.5	11.0	3.5	4.5	7.5

■ P-TYPE



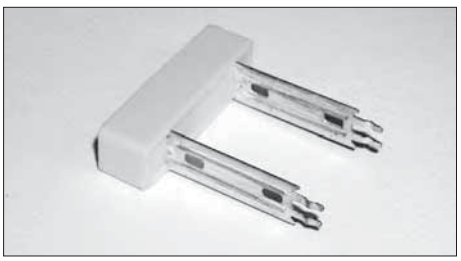
Type	Power Rating	Resistance Range J(±5%), G(±2%) or F(±1%)			Dimensions(mm)				
		WGR	WCR	WMR	L ± 1.5	ℓ ± 3	W ± 1.0	H ± 1.0	d
WRC 2P	2W	0.1~20	0.1~20	20-100K	17.5	27	6.4	6.4	0.8
WRC 3P	3W	0.1~20	0.1~20	20-100K	22	25	8.0	8.5	0.8
WRC 5P	5W	0.1~30	0.1~30	30-100K	22	25	9.5	9.5	0.8
WRC 7P	7W	0.1~50		50-100K	35	25	9.5	9.5	0.8
WRC 10P	10W	0.1~300		300-100K	48	25	9.5	9.5	0.8
WRC 15P	15W	0.1~500		500-100K	48	25	12.5	12.5	0.8
WRC 20P	20W	0.1~600		600-100K	63	25	12.5	12.5	0.8

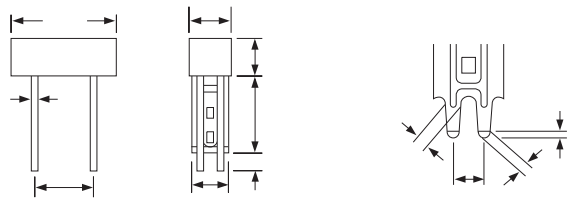
■ MS-TYPE



Type	Power Rating	Resistance Range	Dimensions(mm)					
		J(± 5%) or F(± 1%)	L ± 1	P ± 1	W_1 ± 0.5	W_2 ± 0.5	H_1 ± 1	H_2 ± 1
WRC 5MS	5W	0.1~100K	27	10/15	9.5	5/7.5	9.5	15
WRC 7MS	7W	0.1~100K	35	20/22.5	9.5	5/7.5	9.5	15
WRC 10MS	10W	0.1~100K	48	30/35	9.5	5/7.5	9.5	15
WRC 15MS	15W	0.1~100K	48	35	12.5	5/7.5	12.5	15
WRC 20MS	20W	0.1~100K	62.5	45	13.5	5/7.5	12.5	15

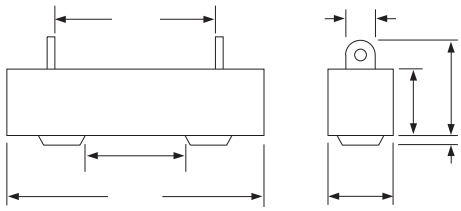
■ MD-TYPE





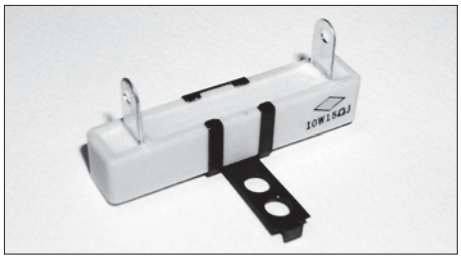
Type	Power Rating	Resistance Range	Dimensions(mm)					
		J(± 5%) or F(± 1%)	L ± 1	P ± 1	W_1 ± 1	W_2 ± 1	H_1 ± 1	H_2 $^{+2}_{-1}$
WRC 5MD	5W	0.1~100K	27	15	9.5	7.3	9.5	15
WRC 7MD	7W	0.1~100K	35	22.5	9.5	7.3	9.5	15
WRC 10MD	10W	0.1~100K	48	35	9.5	7.3	9.5	15

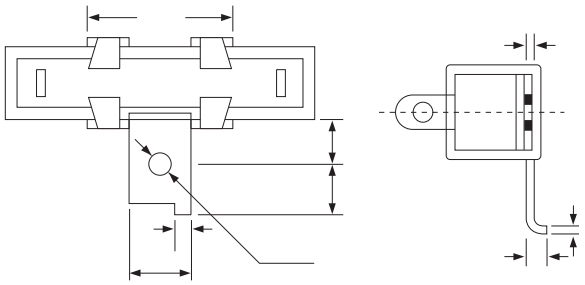
■ L(LUG-TYPE)



Type	Power Rating	Resistance Range	Dimensions(mm)						
		J(±5%)	L±1.5	L1±1.2	L2±1.2	W±0.6	W1	H1±0.7	H2±1.7
WRC 10L	10W	0.1~100K	48	13	35	9.5	6	9.5	20
WRC 15L	15W	0.1~100K	48	25	35	12.5	6	12.5	20
WRC 20L	20W	0.1~100K	63.5	25	48	12.5	6	12.5	20
WRC 25L	25W	0.1~100K	63.5	25	48	16	6/7.5	15.7	24/28

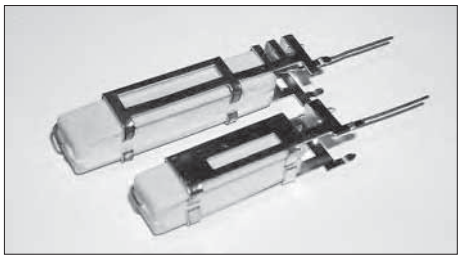
■ LA-TYPE

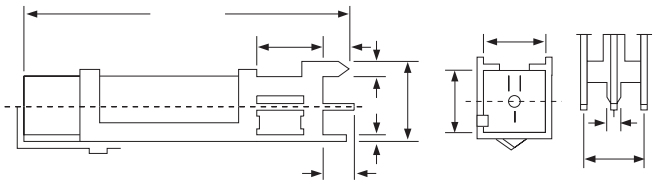




Type	Power Rating	Resistance Range			Dimensions(mm)						
		J(±5%)									
		WGR	WCR	WMR	P2	P3	W2	W3	L3	K	D
WRC 10LA	10W	0.1~600	0.1~600	600~75K	8.0	6.0±0.5	12	3.0±0.5	24±0.5	2.8±0.3	0.6
WRC 15LA	15W	0.1~800	0.1~800	800~68K							0.8
WRC 20LA	20W	0.1~1K		1K~50K							

■ V-TYPE





Type	Power Rating	Resistance Range	Dimensions(mm)									
		F(±1%) or J(±5%)	L1±1	L2±1	L3±1	L4±1	H1±1	H2±1	H3±1	W1±1	W2±1	W3±1
WRC 7V	7W	0.1~100K	49	10	4	5	1.5	11	9	9.5	1.5	10
WRC 10V	10W	0.1~100K	62	10	4	5	1.5	11	9	9.5	1.5	10

■ HOW TO ORDER

WRC	5	R	10Ω	J
ABEL Code	Power Rating	Type	Resistance	Tolerance

■ VOLTAGE RATING

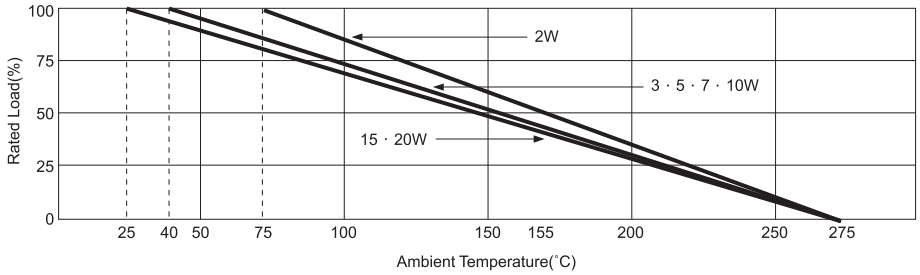
Resistor shall have a rated DC or RMS continuous working voltage at commercial line frequence and wave from corresponding to the power rating, as determined from the following formula

$E = \sqrt{P \times R}$

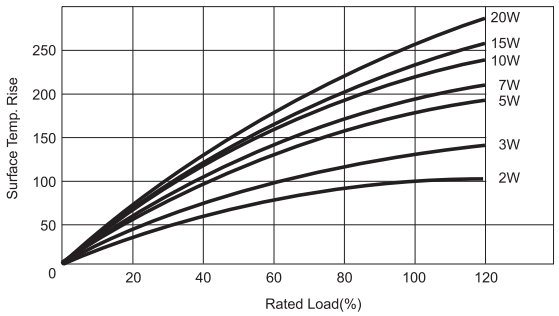
E: Rated continuous working voltage
P: Power rating
R: Nominal resistance

■ POWER RATING

Resistor shall have a power specified on table and based on continuous full-load operation at an ambient temperature of 75˚C for 2W, 40˚C for 3W through 10W, 25˚C for over wattage.
For resistors operated at an ambient temp. exceeding these specified level, the load shall be derated in accordance with Fig. 1 below.



■ SURFACE TEMPERATURE RISE



■ PERFORMANCE CHARACTERISTICS

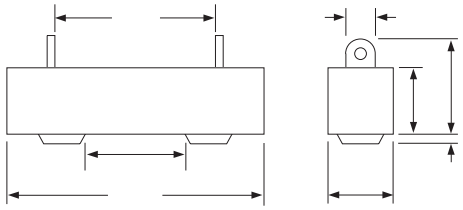
Item	Max. permissible deviation
Operating temp. range	-25˚C ~ +155˚C
Load life	No mechanical damage ± (5% + 0.05Ω)
Moisture load life	No mechanical damage No arcing or breakdown ± (5% + 0.05Ω)
Dielectric Withstanding voltage	No mechanical damage ± (2% + 0.05Ω)
Thermal shock	No mechanical damage ± (5% + 0.05Ω)
Short time over load	No mechanical damage ± (2% + 0.05Ω)

ASC SERIES

ABEL PRECISION CO.,LTD

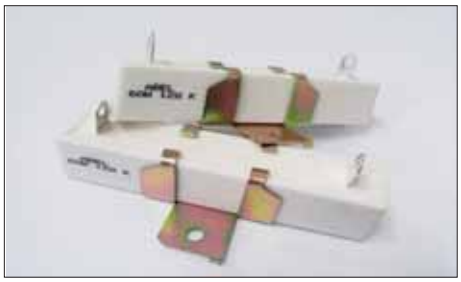
• ANTI SURGE CEMENT RESISTOR → ASC

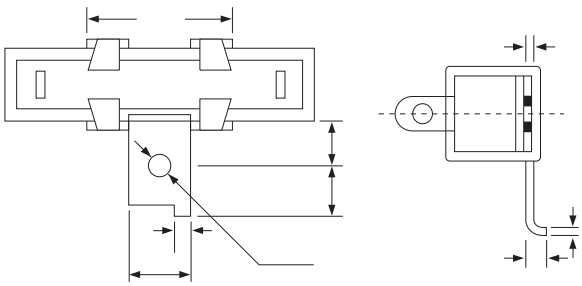
■ L (LUG-TYPE)



Type	Power Rating	Max Working Voltage	Resistance Range	Dimensions (mm)						
			K(±10%)	L	L1	L2	W	W1	H1	H2
ASC	60W	34.5	10, 12, 20	90 ± 1.5	43 ± 1.2	68 ± 1.2	19 ± 0.6	7.5	19.2 ± 1.7	28.2 ± 0.7

■ LY-TYPE





Type	Power Rating	Max Working Voltage	Resistance Range	Dimensions (mm)						
			K(±10%)	P2	P3	W2	W3	L3	K	D
ASC	60W	34.5	10, 12, 20	10.4	7.0	18	3.0 ± 0.5	38 ± 0.5	2.3 ± 0.3	0.8

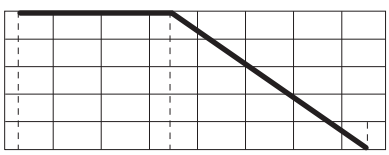
■ HOW TO ORDER

ASC	60W	LY	12Ω	K
ABEL Code	Power Rating	Type	Resistance	Tolerance

■ PERFORMANCE CHARACTERISTICS

Item	Max. permissible deviation
Operating temp. range	-25℃ ~ +155℃
Load life	No mechanical damage ± (5% + 0.05Ω)
Moisture load life	No mechanical damage No arcing or breakdown ± (5% + 0.05Ω)
Dielectric Withstanding voltage	No mechanical damage ± (2% + 0.05Ω)
Thermal shock	No mechanical damage ± (5% + 0.05Ω)
Short time over load	No mechanical damage ± (2% + 0.05Ω)

■ DERATING CURVE



MPR SERIES METAL PLATE RESISTOR

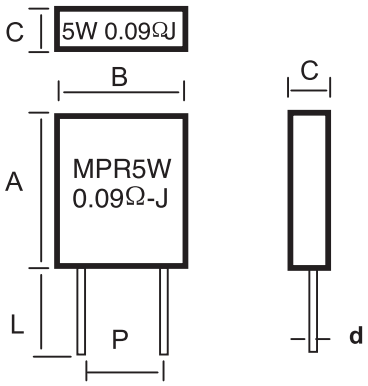
ABEL PRECISION CO.,LTD

■ FEATURES

- Low resistance values
- Non inductive
- Excellent stability and moisture

■ APPLICATIONS

- PDP power board
- LCD / LED power board
- Power supplies



■ DESCRIPTION

The element of resistor is a resistive metal plate. The wires are welded on ends of Metal Plate and inserted into ceramic case as flame retardant.

■ DIMENSIONS

Type	Dimension (mm)					
	A	B	C	P	L	d
MPR 2W	18 ± 1.0	15 ±1.0	5 ±1.0	10 ±1.0	5 ±1.0	0.8 ±0.05
MPR 3W	18 ± 1.0	15 ±1.0	5 ±1.0			
MPR 5W	18 ± 1.0	15 ±1.0	5 ±1.0			
MPR 10W	18 ±1.0	16 ±1.0	8.5 ±1.0			

■ SFECIFICATION

Type	Power Rating (W)	Max. Working Voltage(V)	Max. Overload Voltage(V)	Rating Ambient Temp.(℃)	Operating Temp. Range	Resistance Range E-24-J(±5%)
MPR 2W	2	50	100	+ 70℃	- 40 ℃ ~200 ℃	0.01 ~ 0.50
MPR 3W	3					
MPR 5W	5					
MPR 10W	10					

* Consult factory for resistance values outside of above standard range and tolerance
** Voltage rating is determined by E- $\sqrt{P*R}$, E should not exceed Max. Working Voltage.

■ CHARACTERISTICS

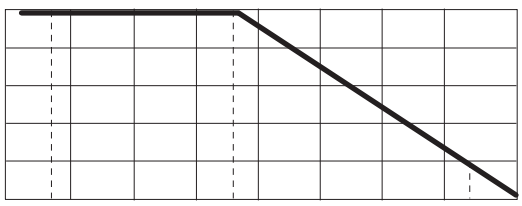
Characteristics	Performance
Short Time Over Load	± (2%+0.05Ω)
Dielectric Withstanding Voltage	± (1%+0.05Ω)
Resistance To Soldering Heat	± (1%+0.05Ω)
Insulation Resistor	1000MΩ MIN
Moisture Resistance	± (5%+0.05Ω)
Load Life	± (5%+0.05Ω)

■ HOW TO ORDER

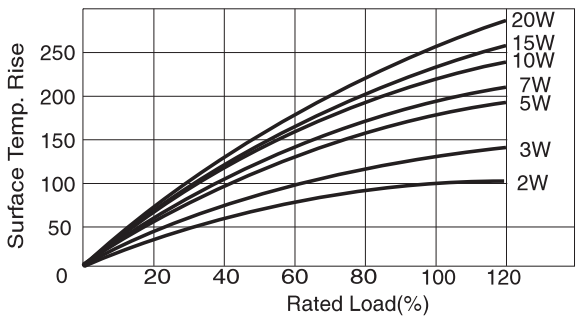
MPR	5W	0.09Ω	J
1	2	3	4

1. ABEL Code
2. Power Rating
3. Resistance
4. Tolerance(±1%, ±2%, ±5%), ±5% is standard.
5. Packing: Bulk

■ DERATING CURVE

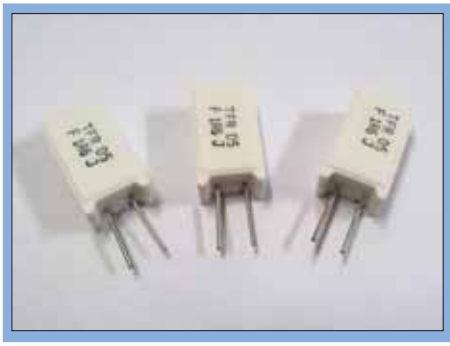


■ SURFACE TEMPERATURE RISE



TFR SERIES THERMAL FUSE RESISTOR

ABEL PRECISION CO.,LTD

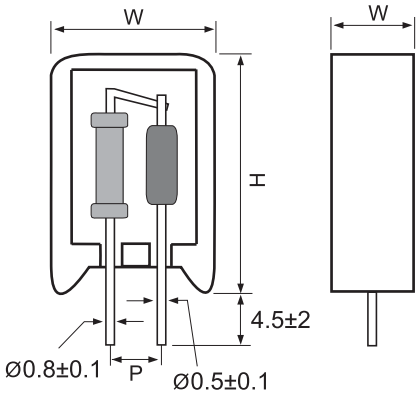


■ FEATURES

- Sharp fusing characteristics
- Low cost and handiness for one box type
- space saving type
- Exclusive surge characteristics

■ APPLICATIONS

- Switching regulator
- Video adater or safety circuit in electrical equipment



■ DESCRIPTION

TFR is a resistive wire which is wound in a single layer on a ceramic Rod, then connected with Thermal fuse and object with terminals inserted built-in ceramic case. Excellent have thermal conductivity. The resistors sealed with insulated inorganic substance.

■ DIMENSIONS

Type	Dimension (mm)			
	A	B	C	P
TFR 5W	12.5 ± 1.0	25.5 ± 1.0	9.5 ± 1.0	5.0 ± 2.0
TFR 7W	13.5 ± 1.0	28.5 ± 1.0	9.5 ± 1.0	

■ SPECIPICATION

Power Rating		Thermal Fuse			Resistance Range	Tolerence	Max. Working Voltage(V)
5W	7W	Thermal Cut-off Temp.	Voltage Rating	Current Rating (A)			
0.9	1.3	102 ± 2 ˚C	250	2	1Ω~50Ω	± 5%	350
1.3	1.7	130 ± 2 ˚C					
1.6	2.0	139 ± 2 ˚C					
1.8	2.0	150 ± 2 ˚C					
1.5	1.9	128 ± 2 ˚C	250	10			
1.6	2.1	139 ± 2 ˚C					
1.7	2.2	144 ± 2 ˚C					
2.0	2.4	167 ± 2 ˚C					

■ CHARACTERISTICS

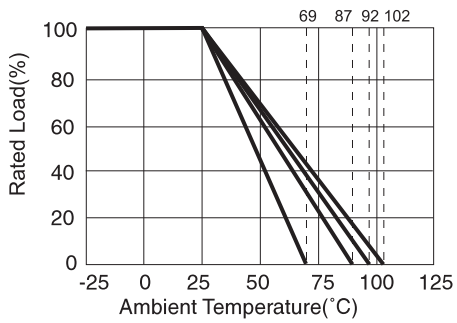
Characteristics	Performance
Short Time Over Load	±(5.0%+0.1Ω)
Resistance To Soldering Heat	±(1.0%+0.05Ω)
Load Life in Temperature	±(1.0%+0.05Ω)
Load Life in Moisture	±(5.0%+0.1Ω)
Temperature Coefficient	± 250 ppm/˚C

■ HOW TO ORDER

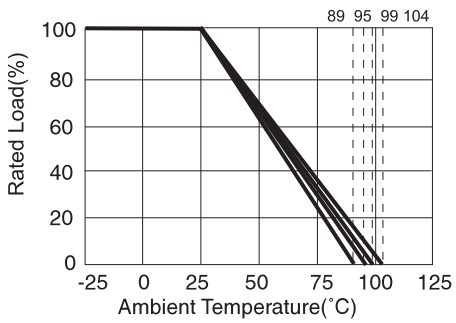
TFR	5W	10Ω	130˚C	J
1	2	3	4	5

1. ABEL Code
2. Power Rating
3. Resistance
4. Thermal Cut-off Temperature
5. Tolerance - ± 5% is standard

■ DERATING CURVE - 2A



■ DERATING CURVE - 10A



AH SERIES ALUMINUM HOUSED WIRE WOUND RESISTOR

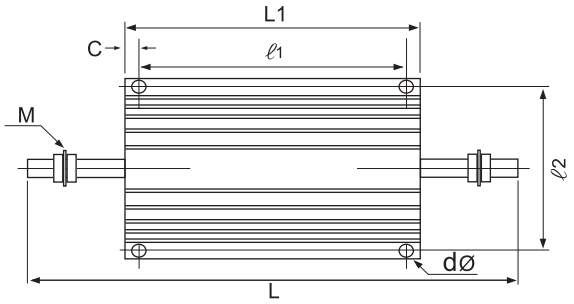
ABEL PRECISION CO.,LTD

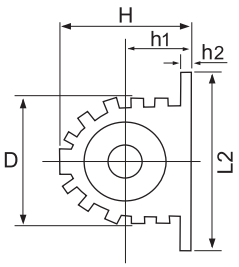
■ FEATURES

- High power rating, small size and ultra precision.
- Excellent mechanical thermal strength at a high temperature.
- High stability, strong construction.
- Available inductive type(AHW) and non-inductive type(AHN)

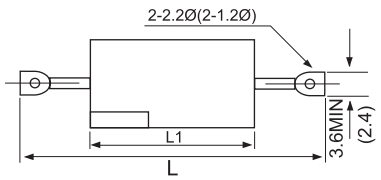
■ DIMENSIONS

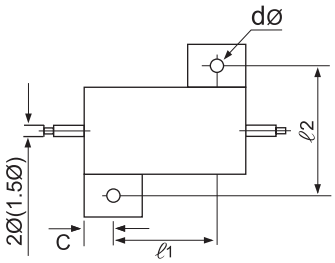
•AH(N) 75 ~ AH(N) 250

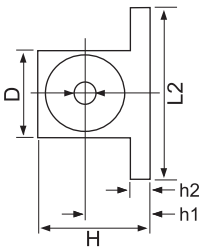


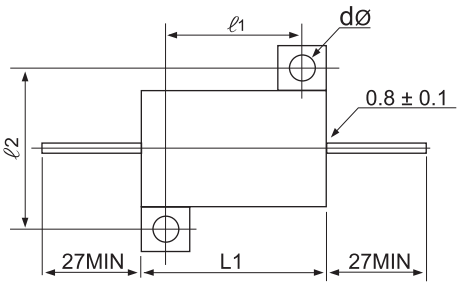


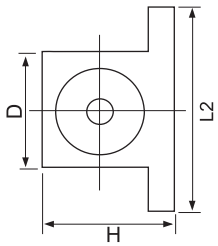
•AH(N) 5 ~ AH(N) 50











Type	Dimensions(mm)											
	L	L1±1.0	L2±0.8	ℓ1±0.8	ℓ2±0.8	D±1.0	H±0.8	d±0.3	C±0.8	h1±1.0	h2±1.0	M
AH-5	29	15.3	16.4	11.3	12.5	8.5	8	2.3	2	4	1.6	-
AH-10	35	19	20	14.3	15.9	10.8	10	2.4	2.4	5.3	2.4	-
AH-25	49	27	28	18.3	19.8	13.5	16	3.2	4.4	8	2.5	-
AH-50	71	49.6	28	39.7	19.8	13.5	16	3.2	4.4	8	2.5	-
AH-75	110	66	52	56	42	32	33	4.8	5	16	3.2	-
AH-100	140	88.9	71.4	69.9	57.2	46	44.5	4.8	9.5	19.5	4.8	6
AH-250	177.8	114.3	76.2	98.4	63.5	54	56.5	4.8	7.9	25.4	6.4	6

AH SERIES ALUMINUM HOUSED WIRE WOUND RESISTOR

ABEL PRECISION CO.,LTD

■ SPECIFICATIONS

Type	Power Rating (W)		Resistance Range (Ω)		Max. Working Voltage (V)		Dielectric Strength (V)	MIL Type	Resistance Tolerance (%)
	Chassis Mounted	Free Air	Inductive	Non-Inductive	RHW	RHN			
AH-5	5	3	0.1 ~ 3K	0.1 ~ 1K	120	70	500	AE60	±0.5 (D) ±1 (F) ±2 (G) ±3 (H) ±5 (J) ±10 (K)
AH-10	10	6	0.1 ~ 6K	0.1 ~ 2.3K	245	180	1500	AE65	
AH-25	20	8	0.1 ~ 15K	0.1 ~ 5.5K	500	300		AE70	
AH-50	30	10	0.1 ~ 40K	0.1 ~ 12K	1300	600	2500	AE75	
AH-75	75	30	0.2 ~ 20K	0.1 ~ 10K	1500	1050	4500	-	
AH-100	120	50	0.3 ~ 50K	0.12 ~ 25K	1900	1340		AE77	
AH-250	200	75	0.6 ~ 80K	0.15 ~ 40K	2500	1750		AE80	

■ CHARACTERISTICS

Characteristics	Performance
Operating Temp. Range	-55˚C ~ +200˚C
Temp. Coefficient	MIL-Type ±30, ±50ppm/˚C General Type ±260ppm/˚C Max.
Dielectric Withstanding Voltage	AC 500V, AC1500V, AC2500V, AC4500V
Insulation Resistance	1000MΩMin., DC 500V
Short Time Overload	±(2% + 0.05Ω), 5 X Wattage rating - 5 Sec
Moisture Resistance	±(2% + 0.05Ω), Temp. 40˚C, Moisture 95% 1/10 Wattage rating (1.5 hours ON - 0.5 hours OFF) - Repeat 500 hours
Load Life	AH 5 ~ AH 50: ±(1%+0.05Ω) AH 75 ~ AH 250: ±(3%+0.05Ω) Load wattage Rating (chassis mounted) (1.5H ON - 0.5H OFF) - Repeat 1000 hours
Vibration	±(2% + 0.05Ω), 10˚C/S → 55˚C/S → 10˚C/S (1Min) - 2 Hr Each of paralled and right angle
Heat Resistance	±(1% + 0.05Ω) 275˚C, 2Hr

■ NOTES

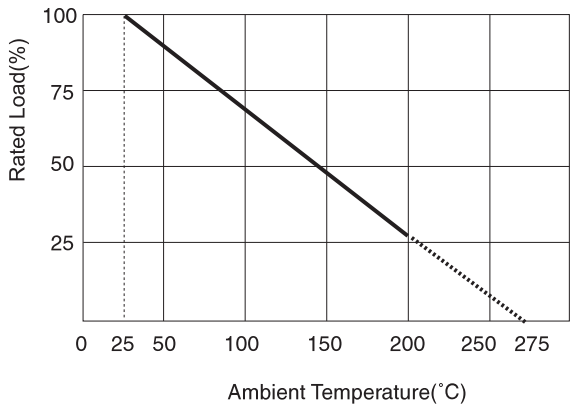
- This AH series is designed for chassis mounting style and note the followings.
- In order to mount the resistor tightly to chassis, mounting surface should be completely smooth.
- On the mounting surface, paint flatly the well temperature conductive material like the radiant heat

■ HOW TO ORDER

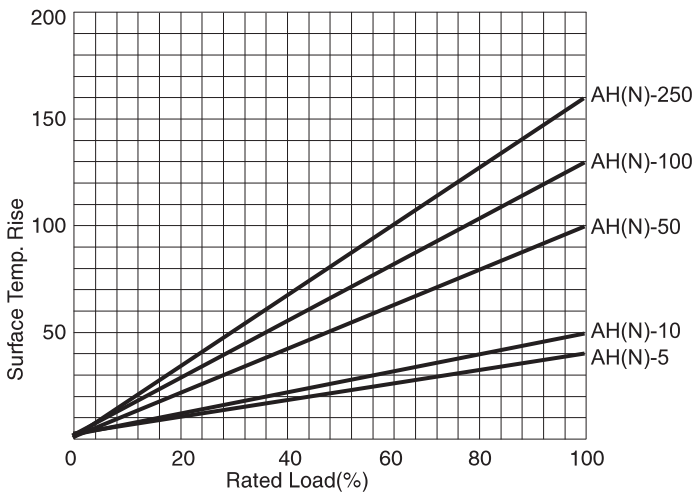
AH	W/N	50Ω	J	A
1	2	3	4	5

1. ABEL Code
2. Winding Method
   (W: Inductive, N: Non-Inductive)
3. Resistance
4. Tolerance
5. Terminal
   (A: Axial, Lead, T: Terminal, W: Extended wire)

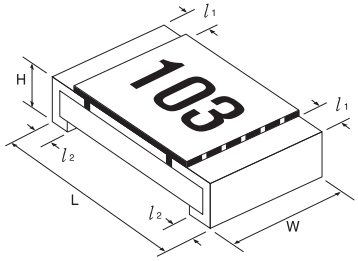
■ POWER DERATING CURVE



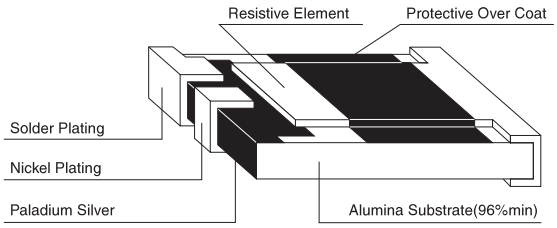
■ SURFACE TEMPERATURE RISE



■ DIMENSIONS



■ CONSTRUCTION



Unit : mm

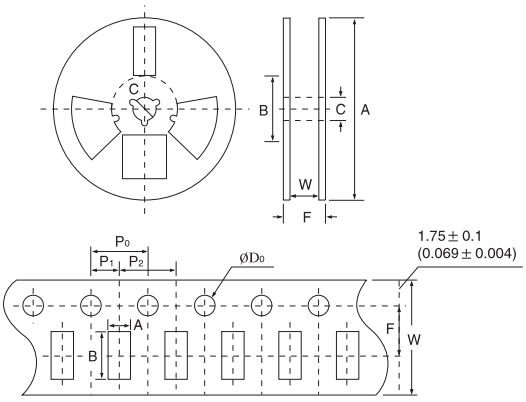
Type	m/m	Inch	L	W	H	l_1	l_2
ACR 20	1005	0402	1.0 ± 0.10	0.50 ± 0.05	0.30 ± 0.05	0.20 ± 0.10	0.25 ± 0.10
ACR 16	1608	0603	1.60 ± 0.10	0.80 ± 0.15	0.45 ± 0.10	0.30 ± 0.20	0.30 ± 0.20
ACR 10	2012	0805	2.00 ± 0.20	1.25 ± 0.20	0.45 ± 0.10	0.30 ± 0.20	0.30 ± 0.20
ACR 08	3216	1206	3.20 ± 0.20	1.60 ± 0.20	0.50 ± 0.10	0.40 ± 0.20	1.45 ± 0.20

■ SPECIFICATIONS

Type	Power Rating at 70℃	Max. Working Voltage	Max. Overload Voltage	Resistance Tolerance(%)	Resistance Range
ACR 20	1/16W	50V	100V	JUMPER F(±1%) G(±2%) J(±5%) K(±10%)	E-24Series 2.2Ω ~ 10MΩ
ACR 16	1/16W	50V	100V		
ACR 10	1/10W	150V	300V		
ACR 08	1/8W	200V	400V		

*Operating Temp. Range : -55 ~ +125℃

■ TAPING SPECIFICATIONS REEL



■ STANDARD QUANTITY PER REEL

Type	Paper tape	Tape Width
ACR Series	5,000pcs	8mm±0.2

Unit : mm

Dimensions	A	B	C	F	W
mm	178 ± 2.0	60 ± 2.0	13.5 ± 0.5	12 ± 1.5	10 ± 1.0

Unit : mm

	ACR 20	ACR 16	ACR 10	ACR 08
A	0.7 ± 0.05	1.1 ± 0.1	1.65 ± 0.1	1.90 ± 0.2
B	1.2 ± 0.1	1.85 ± 0.1	2.35 ± 0.1	3.5 ± 0.2
Tape thickness	0.4	0.6	0.75	

■ PAPER CARRIER TAPE

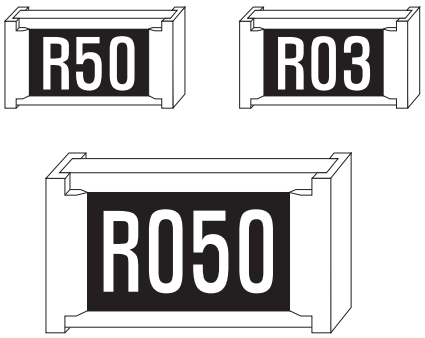
Unit : mm

Type	D_0	F	P_0	P_2	P_1	W
ACR 08, 10	1.5 ± 0.1	3.5 ± 0.05	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	8.0 ± 0.2
ACR 16, 20	1.5 ± 0.1	3.5 ± 0.05	4.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.05	8.0 ± 0.2

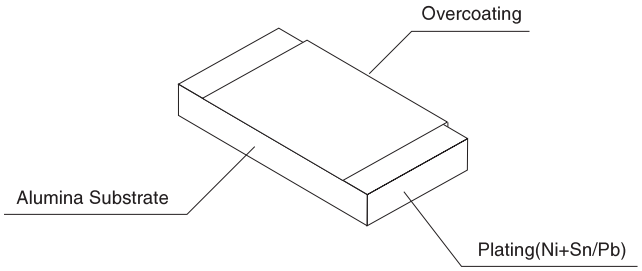
■ HOW TO ORDER

ACR	10	103	J
Common Code	Rated Power	Nominal Resistance Value	Tolerance
Chip resistors	08 : 1/8W 10 : 1/10W 16 : 1/16W	The first two digits are significant figures of resistance and the third one denotes number of zeros following. Jumper is expressed by ROO	F : ±1% G : ±2% J : ±5% K : ±10% O : Jumper

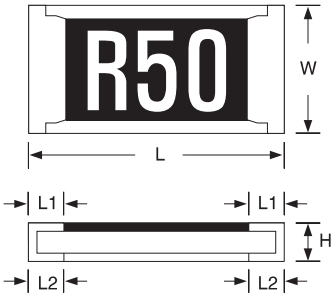
• RCT20, 25



■ CONSTRUCTION



■ DIMENSIONS



Type	Dimensions(mm)				
	L	W	H	L_1	L_2
RCT 20(2010)	5.00±0.20	2.50±0.20	0.55±0.10	0.60±0.20	0.60±0.20
RCT 25(2512)	6.30±0.20	3.20±0.20	0.55±0.10	0.60±0.20	0.60±0.20

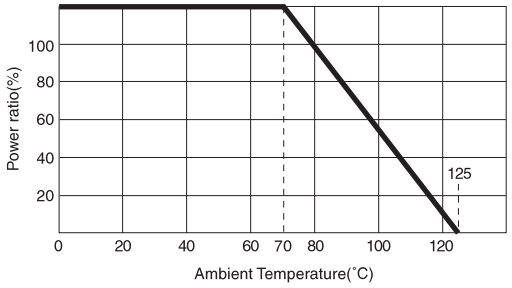
■ CHARACTERISTICS

Item	1%	2%, 5%
Temperature Cycling	±(0.5%+0.005Ω)	±(1.0%+0.05Ω)
Low Temperature Operation	±(0.5%+0.005Ω)	±(1.0%+0.05Ω)
Short Time Over Load	±(0.5%+0.005Ω)	±(2.0%+0.10Ω)
Resistance To Soldering Heat	±(0.5%+0.005Ω)	±(1.0%+0.05Ω)
Loading Life in Moisture	±(0.5%+0.005Ω)	±(2.0%+0.05Ω)
Resistance To dry heat	±(1.0%+0.005Ω)	±(2.0%+0.10Ω)
Load Life	±(1.0%+0.005Ω)	±(3.0%+0.10Ω)
Solderability	Coverage ≥ 95%	Coverage ≥ 95%
Bending Strength	±(1.0%+0.005Ω)	±(1.0%+0.05Ω)
Intermittent Over Load	±(5.0%+0.100Ω)	±(5.0%+0.10Ω)

■ RATINGS

Type	Rated Power at 70℃	T.C.R (ppm/℃)	Resistance Range E-96-F(±1%) E-24-G(±2%), F(±5%)	Operating Temp. Range
RCT 20(2010)	1/2W	±100	0.01Ω~ 0.5Ω	-55℃ ~+125℃
RCT 25(2515)	1W	±100	0.01Ω~ 0.5Ω	

■ DERATING CURVE



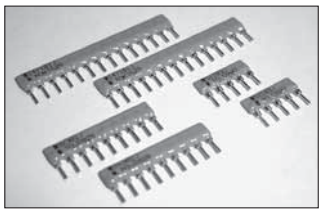
■ HOW TO ORDER

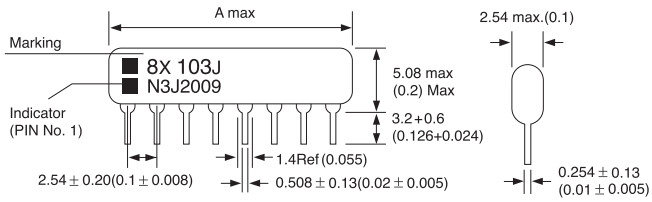
RCT	25	R01	J	TE
Type	Size	Nominal Resistance	Tolerance	Package
Low Value Chip Resistors	20(2010) 25(2512)	■ Resistors • 3-Digit : Ex 0.01Ω=R01, 0.5Ω=R50 • 4-Digit : Ex 0.01Ω=R010, 0.5Ω=R500	F : ±1% G : ±2% J : ±5%	TE : Taping(Emboss)

■ DIMENSIONS mm(Inch)

NO. PINS	A(mm)
4-14	2.54 × P (P: Number of Pins)

*Body color: yellow gold

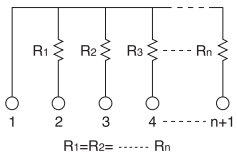
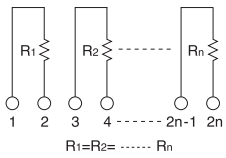
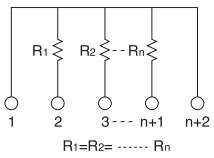
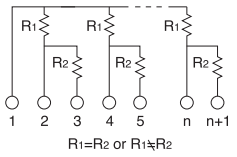
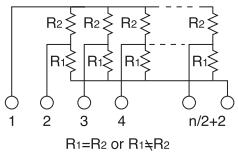
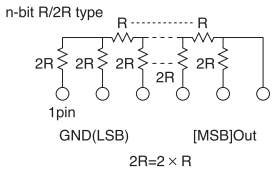




■ POWER RATINGS

Circuit Type	Rated Power at Element	Max. Working Voltage	Max. Overload Voltage	Resistance Range	Resistance Tolerance	Rating Ambient Temp.	Operating Range
Y	200mW	100V	150V	22Ω ~ 1MΩ	E-96-F: ± 1%, E-24-J: ± 5%, K: ± 10%, G: ± 2%	+70℃	-55℃ ~+125℃
L	30mW						
Other	125mW						

■ CIRCUITS CONSTRUCTION

Circuit Symbol	X	Y	C
Number of Pins	4-14	4-14	4-14
Circuit Construction			
Type Designation	ANR 8X 472J	ANR 8Y 472J	ANR 8C 472J
Circuit Symbol	**G**	**H**	**L**
Number of Pins	5-11	4-14	5-11
Circuit Construction			
Type Designation	ANR 8G 103/103J	ANR 8H 221/331J	ANR 8L 103/203J

■ STANDARD RESISTANCE VALUES

TYPEI	X · Y								H · (R1/R2)	
R	22	100	330	1K2	3K9	12K	82K	1M	180/390	
	33	120	390	1K5	4K7	15K	100K		220/270	330/470
	47	150	470	1K8	5K6	22K	220K		220/330	330/680
	56	180	680	2K2	6K8	33K	390K		330/330	3K/6.2K
	68	220	820	2K7	8K2	47K	470K			
	82	270	1K	3K3	10K	68K	680K			

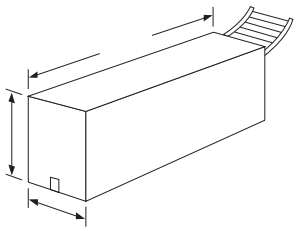
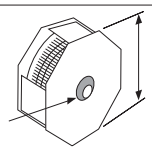
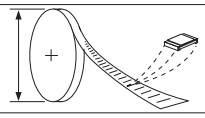
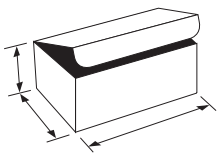
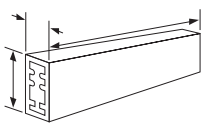
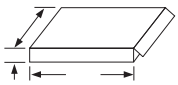
* Other type of resistor network available ** Custom configurations available.

■ HOW TO ORDER

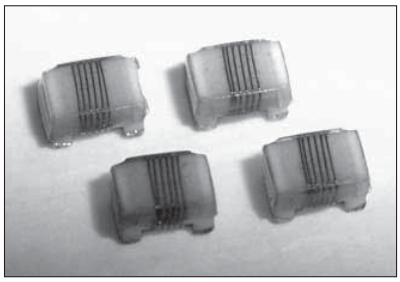
ANR	9	X	472	J
Common Code	Number of Pins	Circuit Symbol	Nominal Resistance	Tolerance
Network Resistors	4-14 Pins		The first two digits are significant figures of resistance and the third one denotes number of zeros following	F : ± 1% G : ± 2% J : ± 5% K : ± 10%

DETAILS PACKING

ABEL PRECISION CO.,LTD

Type	Code	Lead Style	Inner Box		Type	Out Box		Remark
			Size(mm) (W X H X L)	Q'ty		Size(mm) (W X H X L)	Q'ty	
	TA	26mm	50X105X270	5,000	1/8, 1/4	270X240X400	80,000	
			50X65X252	2,000	AL02	185X260X455	54,000	8.5kg
					AL03			11kg
	TB	52mm	73X100X350	10,000	1/8	330X170X380	60,000	
			70X70X255	5,000	1/8, 1/6	270X240X400	75,000	
			75X110X255	5,000	1/4, 1/2S	270X240X400	50,000	
				2,500	12		25,000	
			75X110X255	2,000	1S, FR1/2		25,000	
			70X110X355	2,500	AL04	330X260X485	30,000	6kg
			70X110X355	2,000	AL05	330X260X485	30,000	10kg
			70X85X265	2,500	AL03	285X305X455	45,000	7kg
			70X65X265	2,500	AL02	285X250X455	45,000	6kg
			85X100X255	1,500	1.2S	270X230 X460	15,000	
				750	2.3S		7,500	
	TR	64mm	280X280 (AXA)	5,000	1/8, 1/4 AL02	460x320x600	50,000	AL02(14kg)
				4,000	1/8, 1/4 AL03		40,000	AL03(14kg)
				2,500	1/2. mini 1 AL04		25,000	AL04(16kg)
	TR		Ø178mm	5,000	ATR 0402, 0603, 0805, 1206, 1210	195X 200 X265	100,000	
	BF	M-FORMED	155X95X225	3,000	1, mini 2	280 X255 X460	21,000	30pcs per Poly Bag
				1,500	2, mini 3		10,500	15pcs per Poly Bag
	BS	BULK		3,000	1, mini 2		21,000	30pcs per Poly Bag
				1,000	2, mini 3		7,000	15pcs per Poly Bag
				1,500	WRP 1		24,000	30pcs per Poly Bag
				350	WRP 2, 3		12,000	15pcs per Poly Bag
	BP	BULK	140X65X215	500	2P	290X260X460	8,000	Power Type
				300	2R, 3R		4,800	
				200	3P, 5P, 5R		3,200	
				100	7P, 10P, 7V		1,600	
				225	5M		3,600	
				5,000	ANR, 4P, 5P		80,000	Be changed
				3,000	ANR, 6P~9P		48,000	per R-Networks
				2,000	ANR, 10P~14P		32,000	of Pins
	RS	STICK	50X250X335	750	3RT	270X280X340	3,750	
			50X125X330	1,500	1.2SRT	350X280X560	30,000	
	RT	STICK	9.8X 29X580	48	2.3RT	155X110X600	2,400	
	RD	M-FORMED	187X40X325	2,000	RD35	340X255X580	36,000	12kg
				1,000	RD40		18,000	10kg
				1,500	RD45		27,000	18kg

CERAMIC CHIP INDUCTORS



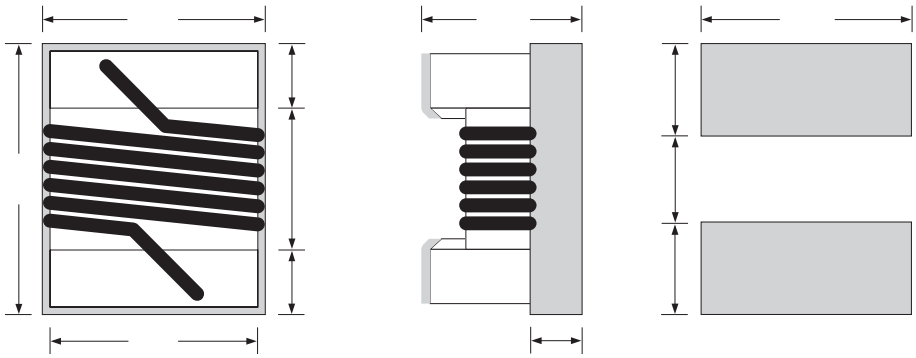
■ FEATURES

ABEL chip inductor is wire wound type ceramic Inductor.
And our product provide high Q value.
So ABEL chip inductor can be SRF(self resonant frequency)industry.
This can often eliminate the need for variable components in tunner circuits and oscillators.
With our engineering and manufacturing facilities,we're able to quickly provide tailored to your needs.

■ APPLICATION

• RF circuits for mobile phone or pagers and other communication devices.

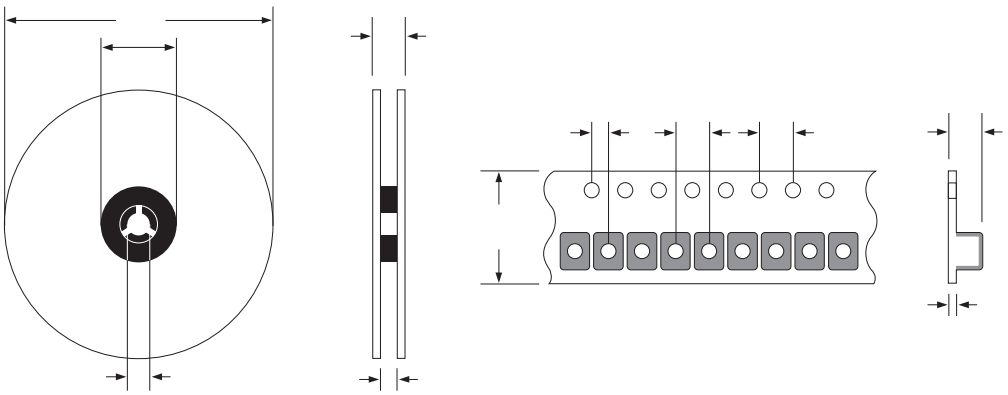
■ DIMENSIONS(mm)



Unit: mm

SERIES	A Max.	B Max.	C Max.	D	E	F Ref.	G	H	I	J
LMC 2012	2.29	1.73	1.52	0.51	1.27	0.51	1.02	1.78	1.02	0.76
LMC 1608	1.80	1.12	1.02	0.38	0.76	0.33	0.86	1.02	0.64	0.64
LMC 1005	1.19	0.64	0.66	0.25	0.51	0.23	0.56	0.66	0.36	0.46

■ TAPE AND REEL SPECIFICATIONS



Unit: mm

SERIES	Reel dimensions					Tape dimensions						Per Reel(Q'ty)
	A	B	C	D	E	W	P	P0	P1	H	T	
LMC 2012	180	60	13	14.4	8.4	8	4	4	2	2.1	0.3	2,000
LMC 1608	180	100	13	14.4	8.4	8	4	4	2	-	0.95	3,000
LMC 1005	180	100	13	14.4	8.4	8	2	4	2	-	0.6	4,000

ITEM PART NUMBERS

LMC 2012

Odering code[1]	Inductance[2] (nH)	Tolerance[3] (%)	Q[4] (min.)	SRF Min[5] (MHZ)	Rdc Max[6] (Ω)	Idc Max[7] (mA)
LMC 2012TP- 3N3 J	3.3 @ 250MHz	± 5	50 @ 1500MHz	7900	0.08	600
LMC 2012TP- 6N8 G,J	6.8 @ 250MHz	± 2, 5	50 @ 1000MHz	5500	0.11	600
LMC 2012TP- 8N2 J	8.2 @ 250MHz	± 5	50 @ 1000MHz	4700	0.12	600
LMC 2012TP- 120 G,J	12 @ 250MHz	± 2, 5	50 @ 500MHz	4000	0.15	600
LMC 2012TP- 150 G,J	15 @ 250MHz	± 2, 5	50 @ 500MHz	3400	0.17	600
LMC 2012TP- 180 G,J	18 @ 250MHz	± 2, 5	50 @ 500MHz	3300	0.20	600
LMC 2012TP- 220 G,J	22 @ 250MHz	± 2, 5	55 @ 500MHz	2600	0.22	500
LMC 2012TP- 240 G,J	24 @ 250MHz	± 2, 5	55 @ 500MHz	2550	0.23	500
LMC 2012TP- 270 G,J	27 @ 250MHz	± 2, 5	55 @ 500MHz	2500	0.25	500
LMC 2012TP- 330 G,J	33 @ 250MHz	± 2, 5	60 @ 500MHz	2050	0.27	500
LMC 2012TP- 390 G,J	39 @ 250MHz	± 2, 5	60 @ 500MHz	2000	0.29	500
LMC 2012TP- 470 G,J	47 @ 250MHz	± 2, 5	60 @ 500MHz	1650	0.31	500
LMC 2012TP- 560 G,J	56 @ 250MHz	± 2, 5	60 @ 500MHz	1550	0.34	500
LMC 2012TP- 680 G,J	68 @ 250MHz	± 2, 5	60 @ 500MHz	1450	0.38	500
LMC 2012TP- 820 G,J	82 @ 150MHz	± 2, 5	65 @ 500MHz	1300	0.42	400
LMC 2012TP- 910 G,J	91 @ 150MHz	± 2, 5	65 @ 500MHz	1250	0.44	400
LMC 2012TP- 101 G,J	100 @ 150MHz	± 2, 5	65 @ 500MHz	1200	0.46	400
LMC 2012TP- 121 G,J	120 @ 150MHz	± 2, 5	50 @ 250MHz	1100	0.51	400
LMC 2012TP- 151 G,J	150 @ 100MHz	± 2, 5	50 @ 250MHz	920	0.56	400
LMC 2012TP- 181 G,J	180 @ 100MHz	± 2, 5	50 @ 250MHz	870	0.64	400
LMC 2012TP- 221 J	220 @ 100MHz	± 5	50 @ 250MHz	850	0.70	400
LMC 2012TP- 271 J	270 @ 100MHz	± 5	48 @ 250MHz	650	1.00	350
LMC 2012TP- 331 J	330 @ 100MHz	± 5	48 @ 250MHz	600	1.40	310
LMC 2012TP- 391 G,J	390 @ 100MHz	± 2, 5	48 @ 250MHz	560	1.50	290
LMC 2012TP- 471 G,J	470 @ 50MHz	± 2, 5	33 @ 100MHz	375	1.90	230
LMC 2012TP- 561 G,J	560 @ 25MHz	± 2, 5	23 @ 50MHz	340	2.35	180
LMC 2012TP- 681 G,J	680 @ 25MHz	± 2, 5	23 @ 50MHz	250	3.51	120
LMC 2012TP- 821 G,J	820 @ 25MHz	± 2, 5	23 @ 50MHz	215	4.20	80

1. How to order

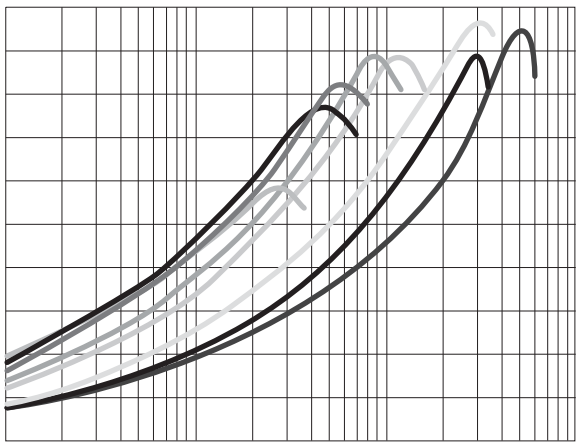
LM	C	2012	TP	3N3	J
(1)	(2)	(3)	(4)	(5)	(6)

(1) Part name (2) Material
(3) Body size (4) TP: Taping
(5) Inductance Value
Ex: 3N3(3.3nH), 560(56nH), 391(390nH)
(6) Inductance Tol.

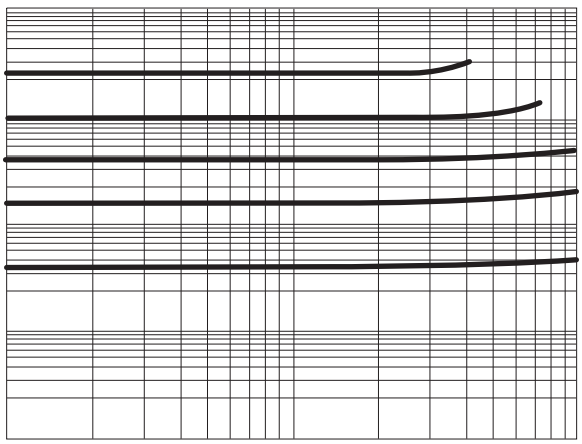
2. Inductance measured: RF LCR METER(HP4286A) + 16193A fixture
3. G= ±2%, J= ±5%, K= ±10%
4. Q measured: RF LCR METER(HP4286A) + 16193A fixture
5. SRF measured: NETWORK ANALYZER(HP8753D) + ABCO SMD-D test fixture
6. Rdc measured: RF LCR METER(HP4286A) + 16193A fixture
7. For 15°C Rise

■ ELECTRICAL CHARACTERISTICS

● Q vs F Characteristic



● L vs F Characteristic



ITEM PART NUMBERS

LMC 1608

Odering code[1]	Inductance[2] (nH)	Tolerance[3] (%)	Q[4] (min.)	SRF Min[5] (MHZ)	Rdc Max[6] (Ω)	Idc Max[7] (mA)	900MHz L Typ	900MHz Q Typ	1.7GHz L Typ	1.7GHz Q Typ
LMC 1608TP-1N6G,J	1.6 @ 250MHz	± 2, 5	24	12500	0.030	700	1.67	49	1.65	63
LMC 1608TP-1N8G,J	1.8 @ 250MHz	± 2, 5	16	12500	0.045	700	1.63	35	1.66	50
LMC 1608TP-3N6G,J	3.6 @ 250MHz	± 2, 5	22	5900	0.063	700	3.72	53	3.71	65
LMC 1608TP-3N9G,J	3.9 @ 250MHz	± 2, 5	22	6900	0.080	700	3.95	49	3.96	67
LMC 1608TP-4N3G,J	4.3 @ 250MHz	± 2, 5	22	5900	0.063	700	4.32	50	4.33	70
LMC 1608TP- 4N7G,J	4.7 @ 250MHz	± 2, 5	20	5800	0.116	700	4.72	47	4.75	57
LMC 1608TP- 5N1G,J	5.1 @ 250MHz	± 2, 5	20	5700	0.140	700	4.93	47	4.95	56
LMC 1608TP- 6N8G,J	6.8 @ 250MHz	± 2, 5	27	5800	0.110	700	6.75	60	7.10	81
LMC 1608TP- 7N5G,J	7.5 @ 250MHz	± 2, 5	28	4800	0.106	700	7.70	60	7.82	65
LMC 1608TP- 8N7G,J	8.7 @ 250MHz	± 2, 5	28	4600	0.109	700	8.86	62	9.32	58
LMC 1608TP- 9N5G,J	9.5 @ 250MHz	± 2, 5	28	5400	0.135	700	9.70	59	9.92	61
LMC 1608TP- 10NG,J	10 @ 250MHz	± 2, 5	31	4800	0.130	700	10.0	66	10.6	83
LMC 1608TP- 11NG,J	11 @ 250MHz	± 2, 5	33	4000	0.086	700	11.0	53	11.5	56
LMC 1608TP- 12NG,J	12 @ 250MHz	± 2, 5	35	4000	0.130	700	12.3	72	13.5	83
LMC 1608TP- 15NG,J	15 @ 250MHz	± 2, 5	35	4000	0.170	700	15.4	64	16.8	89
LMC 1608TP- 16NG,J	16 @ 250MHz	± 2, 5	34	3300	0.104	700	16.2	55	17.3	52
LMC 1608TP- 18NG,J	18 @ 250MHz	± 2, 5	35	3100	0.170	700	18.7	70	21.4	69
LMC 1608TP- 20NG,J	20 @ 250MHz	± 2, 5	40	3000	0.140	700	20.8	71	23.7	70
LMC 1608TP- 22NG,J	22 @ 250MHz	± 2, 5	38	3000	0.190	700	22.8	73	26.1	71
LMC 1608TP- 24NG,J	24 @ 250MHz	± 2, 5	37	2650	0.135	700	24.5	45	28.7	39
LMC 1608TP- 27NG,J	27 @ 250MHz	± 2, 5	40	2800	0.220	600	29.2	74	34.6	65
LMC 1608TP- 30NG,J	30 @ 250MHz	± 2, 5	37	2250	0.144	600	31.4	47	39.9	28
LMC 1608TP- 33NG,J	33 @ 250MHz	± 2, 5	40	2300	0.220	600	36.0	67	49.5	42
LMC 1608TP- 36NG,J	36 @ 250MHz	± 2, 5	38	2080	0.250	600	39.4	47	52.7	24
LMC 1608TP- 39NG,J	39 @ 250MHz	± 2, 5	40	2200	0.250	600	42.7	60	60.2	40
LMC 1608TP- 43NG,J	43 @ 250MHz	± 2, 5	39	2000	0.280	600	47.0	44	64.9	21
LMC 1608TP- 47NG,J	47 @ 200MHz	± 2, 5	38	2000	0.250	600	52.2	62	77.2	35
LMC 1608TP- 56NG,J	56 @ 200MHz	± 2, 5	38	1900	0.310	600	62.5	56	97.0	26
LMC 1608TP- 68NG,J	68 @ 200MHz	± 2, 5	37	1700	0.340	600	80.5	54	168	21
LMC 1608TP- 72NG,J	72 @ 150MHz	± 2, 5	34	1700	0.490	400	82.0	53	135	20
LMC 1608TP- 82NG,J	82 @ 150MHz	± 2, 5	34	1700	0.540	400	96.2	54	177	21
LMC 1608TP- R10G,J	100 @ 150MHz	± 2, 5	34	1400	0.580	400	124	49	-	-
LMC 1608TP- R11G,J	110 @ 150MHz	± 2, 5	32	1350	0.610	300	138	43	-	-
LMC 1608TP- R12G,J	120 @ 150MHz	± 2, 5	32	1300	0.750	300	166	39	-	-
LMC 1608TP- R15G,J	150 @ 150MHz	± 2, 5	28	990	0.920	280	250	25	-	-
LMC 1608TP- R18G,J	180 @ 150MHz	± 2, 5	25	990	1.250	240	305	22	-	-
LMC 1608TP- R22G,J	220 @ 100MHz	± 2, 5	25	900	1.900	200	480	8	-	-
LMC 1608TP- R27G,J	270 @ 100MHz	± 2, 5	24	900	2.900	170	980	4	-	-
LMC 1608TP- R30G,J	300 @ 100MHz	± 2, 5	25	800	2.900	150	-	-	-	-
LMC 1608TP- R33G,J	330 @ 100MHz	± 2, 5	22	600	4.200	100	-	-	-	-

1. How to order

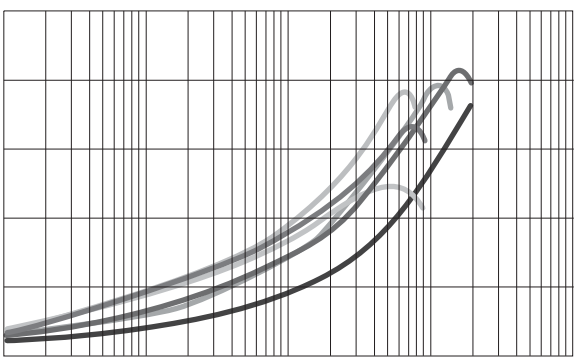
LM	C	1608	TP	1N6	J
(1)	(2)	(3)	(4)	(5)	(6)

(1) Part name
(2) Material
(3) Body size
(4) TP: Taping
(5) Inductance
Ex: 1N6(1.6nH), 27N(27nH), R27(270nH)
(6) Inductance Tol.

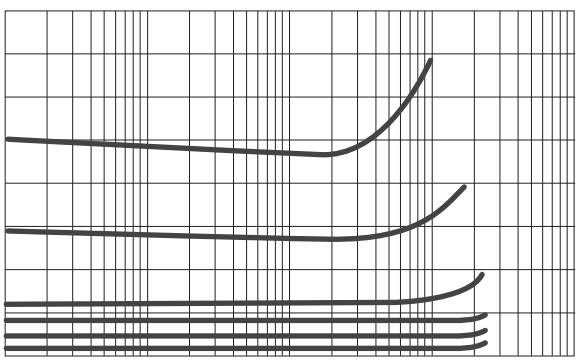
2. Inductance measured: RF LCR METER(HP4286A) + 16193A fixture
3. G= ± 2%, J= ± 5%, K= ± 10%
4. Q measured: RF LCR METER(HP4286A) + 16193A fixture
5. SRF measured: NETWORK ANALYZER(HP8753D) + ABCO SMD-D test fixture
6. Rdc measured: RF LCR METER(HP4286A) + 16193A fixture
7. For 15˚C Rise

■ ELECTRICAL CHARACTERISTICS

● Q vs F Characteristic



● L vs F Characteristic



LMC 1005

Odering code[1]	Inductance[2] (nH)	Tolerance[3] (%)	Q[4] (min.)	SRF Min[5] (MHZ)	Rdc Max[6] (Ω)	Idc Max[7] (mA)	900MHz L Typ	900MHz Q Typ	1.7GHz L Typ	1.7GHz Q Typ
LMC 1005TP- 1N0J,K	1.0 @ 250MHz	± 5, 10	9	6000	0.080	1360	1.02	77	1.02	69
LMC 1005TP- 1N5J,K	1.5 @ 250MHz	± 5, 10	13	6000	0.040	1260	1.49	42	1.50	58
LMC 1005TP- 1N8J,K	1.8 @ 250MHz	± 5, 10	15	6000	0.050	1060	1.74	46	1.74	64
LMC 1005TP- 2N0J,K	2.0 @ 250MHz	± 5, 10	16	6000	0.070	1040	1.93	54	1.93	75
LMC 1005TP- 2N2J,K	2.2 @ 250MHz	± 5, 10	14	6000	0.070	960	2.19	59	2.23	100
LMC 1005TP- 2N3J,K	2.3 @ 250MHz	± 5, 10	10	6000	0.090	800	2.28	37	2.32	45
LMC 1005TP- 2N7J,K	2.7 @ 250MHz	± 5, 10	10	6000	0.220	520	2.69	29	2.80	39
LMC 1005TP- 3N3J,K	3.3 @ 250MHz	± 5, 10	19	6000	0.066	840	3.10	65	3.12	87
LMC 1005TP- 3N6J,K	3.6 @ 250MHz	± 5, 10	19	6000	0.066	840	3.56	45	3.62	71
LMC 1005TP- 3N9J,K	3.9 @ 250MHz	± 5, 10	19	5800	0.066	840	3.89	50	4.00	75
LMC 1005TP- 4N7J,K	4.7 @ 250MHz	± 5, 10	20	5800	0.070	800	4.71	56	5.25	80
LMC 1005TP- 5N1J,K	5.1 @ 250MHz	± 5, 10	20	5800	0.083	800	5.15	56	5.25	80
LMC 1005TP- 5N6J,K	5.6 @ 250MHz	± 5, 10	20	5800	0.083	760	5.16	54	5.28	81
LMC 1005TP- 6N2J,K	6.2 @ 250MHz	± 5, 10	20	5800	0.083	760	6.16	52	6.37	76
LMC 1005TP- 7N5J,K	7.5 @ 250MHz	± 5, 10	22	5800	0.104	680	7.91	60	8.22	88
LMC 1005TP- 8N2J,K	8.2 @ 250MHz	± 5, 10	22	4400	0.104	680	8.50	57	8.85	84
LMC 1005TP- 9N0J,K	9 @ 250MHz	± 5, 10	22	4160	0.130	680	9.70	62	9.53	78
LMC 1005TP- 10NJ,K	10 @ 250MHz	± 5, 10	21	3900	0.130	480	9.80	50	10.1	67
LMC 1005TP- 11NJ,K	11 @ 250MHz	± 5, 10	24	3680	0.120	640	10.7	52	11.2	78
LMC 1005TP- 12NJ,K	12 @ 250MHz	± 5, 10	24	3600	0.160	640	11.9	53	12.7	71
LMC 1005TP- 15NJ,K	15 @ 250MHz	± 5, 10	24	3280	0.172	560	14.6	55	15.5	77
LMC 1005TP- 16NJ,K	16 @ 250MHz	± 5, 10	24	3200	0.210	530	16.2	54	19.1	59
LMC 1005TP- 18NJ,K	18 @ 250MHz	± 5, 10	24	3100	0.190	520	18.8	56	21.4	65
LMC 1005TP- 19NJ,K	19 @ 250MHz	± 5, 10	24	3040	0.260	480	19.1	50	21.1	67
LMC 1005TP- 20NJ,K	20 @ 250MHz	± 5, 10	24	2950	0.270	450	20.6	52	24.2	56
LMC 1005TP- 23NJ,K	23 @ 250MHz	± 5, 10	24	2720	0.280	400	23.8	49	26.9	64
LMC 1005TP- 24NJ,K	24 @ 250MHz	± 5, 10	24	2580	0.350	380	26.3	50	32.8	50
LMC 1005TP- 27NJ,K	27 @ 250MHz	± 5, 10	24	2480	0.330	400	28.7	49	33.5	63
LMC 1005TP- 30NJ,K	30 @ 250MHz	± 5, 10	24	2400	0.400	350	31.2	49	42.0	58
LMC 1005TP- 33NJ,K	33 @ 250MHz	± 5, 10	24	2700	0.480	300	35.5	50	47.0	50
LMC 1005TP- 36NJ,K	36 @ 250MHz	± 5, 10	24	2320	0.403	320	39.5	44	48.4	53
LMC 1005TP- 39NJ,K	39 @ 250MHz	± 5, 10	24	2260	0.490	320	41.0	46	49.5	40
LMC 1005TP- 40NJ,K	40 @ 250MHz	± 5, 10	24	2240	0.550	320	39.0	44	47.4	33
LMC 1005TP- 47NJ,K	47 @ 250MHz	± 5, 10	20	2210	0.830	150	50.0	38	-	-
LMC 1005TP- 51NJ,K	51 @ 250MHz	± 5, 10	23	2180	0.850	120	60.5	44	-	-
LMC 1005TP- 56NJ,K	56 @ 250MHz	± 5, 10	22	2160	1.250	100	65.1	42	-	-
LMC 1005TP- 68NJ,K	68 @ 250MHz	± 5, 10	22	2020	1.520	92	78.8	40	-	-
LMC 1005TP- 82NJ,K	82 @ 250MHz	± 5, 10	20	1940	1.630	84	97.8	37	-	-

1. How to order

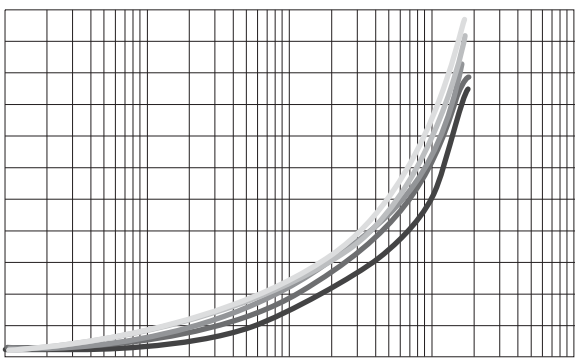
LM	C	1005	TP	1N0	J
(1)	(2)	(3)	(4)	(5)	(6)

(1) Part name (2) Material
(3) Body size (4) TP: Taping
(5) Inductance
Ex: 1N0(1.0nH), 7N5(7.5nH), 47N(47nH)
(6) Inductance Tol.

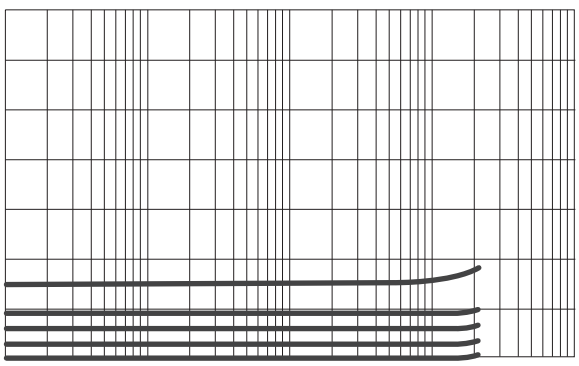
2. Inductance measured: RF LCR METER(HP4287A) + 16197A fixture
3. G= ± 2%, J= ± 5%, K= ± 10%
4. Q measured: RF LCR METER(Agilent4287A) + 16197A fixture
5. SRF measured: NETWORK ANALYZER(HP8753D) + ABCO SMD-D test fixture
6. Rdc measured: RF LCR METER(HP4287A) + 16197A fixture
7. For 15°C Rise

■ ELECTRICAL CHARACTERISTICS

● Q vs F Characteristic

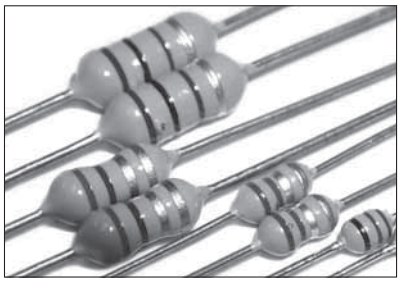


● L vs F Characteristic



LEADED INDUCTORS

■ OPERATING TEMP	-25 ~ +85°C (Including self-generated heat)



■ FEATURES

- Extremely reliable inductors that are ideal for signal and power line applications
- Highly efficient automated production processes can provide high quality inductors in large volumes.

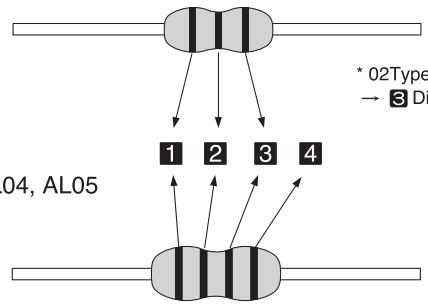
■ APPLICATION

- Consumer electronics (such as VCRs, TVs, audio, equipment, general electronic appliances.)

A	L	03	T	R22	K
1	2	3	4	5	6

■ MARKING

- AL02, ALN02, ALC02



- AL03, AL04, AL05

■ ORDERING CODE

1 Part name	
A	Axial Inductor

2 Characteristics	
L	Standard Type
N, C	High Current Type

3 Body Size (D×L)[㎜]	
02	2.5×3.4(AL, ALC)
	2.5×3.7(ALN)
03	3.0×7.0
04	4.2×9.8
05	4.5×14.0

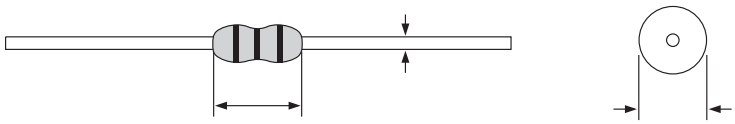
4 Taping Configurations	
TA	Axial lead(26mm lead space) /ammo pack(02/03type)
TB	Axial lead(52mm lead space) /ammo pack(all type)
TR	Axial lead Reel pack (all type)

5 Nominal Inductance[μH]	
R22	0.22
1R5	1.5
120	12

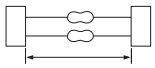
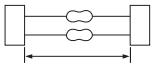
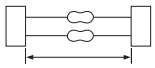
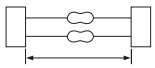
6 Inductance Tolerance[%]	
J	±5
K	±10
M	±20

Color	Inductance[μH]			
	1st Digit	2nd Digit	Multiplier	Tolerance
	1	2	3	4
Black	0		×1	±20%
Brown	1		×10	-
Red	2		×100	-
Orange	3		×1000	-
Yellow	4		-	-
Green	5		-	-
Blue	6		-	-
Purple	7		-	-
Grey	8		-	-
White	9		-	-
Gold	-		×0.1	±5%
Silver	-		×0.01	±10%

■ APPERANCE DIMENSIONS

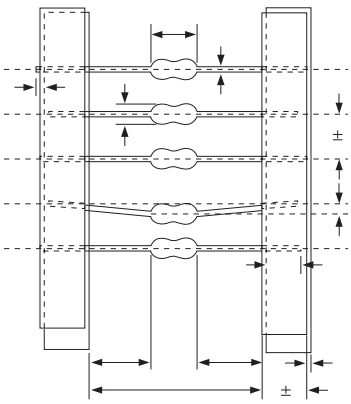


Unit: mm

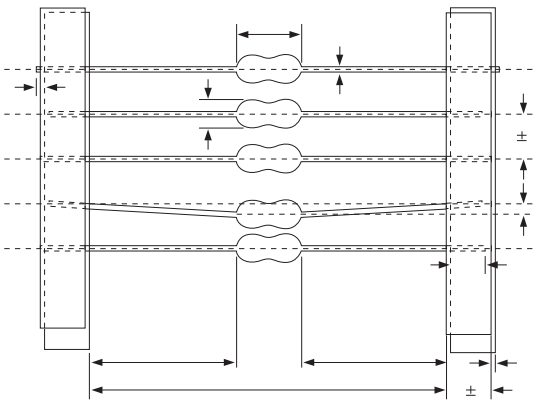
Type	Dimensions			Taped
	L	ØD	Ød	Straight
AL02, ALC02	3.4max.	2.5max.	0.5 ± 0.05	TB 
ALN02	3.7max.	2.5max.		
AL02, ALC02	3.4max.	2.5max.	0.45 ± 0.05	TA 
ALN02	3.7max.	2.5max.		
AL03	7.0max.	3.0max.	0.5 ± 0.05	TA  TB 
AL04	9.8max.	4.2max.	0.65 ± 0.05	TB 
AL05	14.0max.	4.5max.	0.65 ± 0.05	TB 

■ SHAPE DIMENSIONS

● TA(26mm)



● TB(52mm)



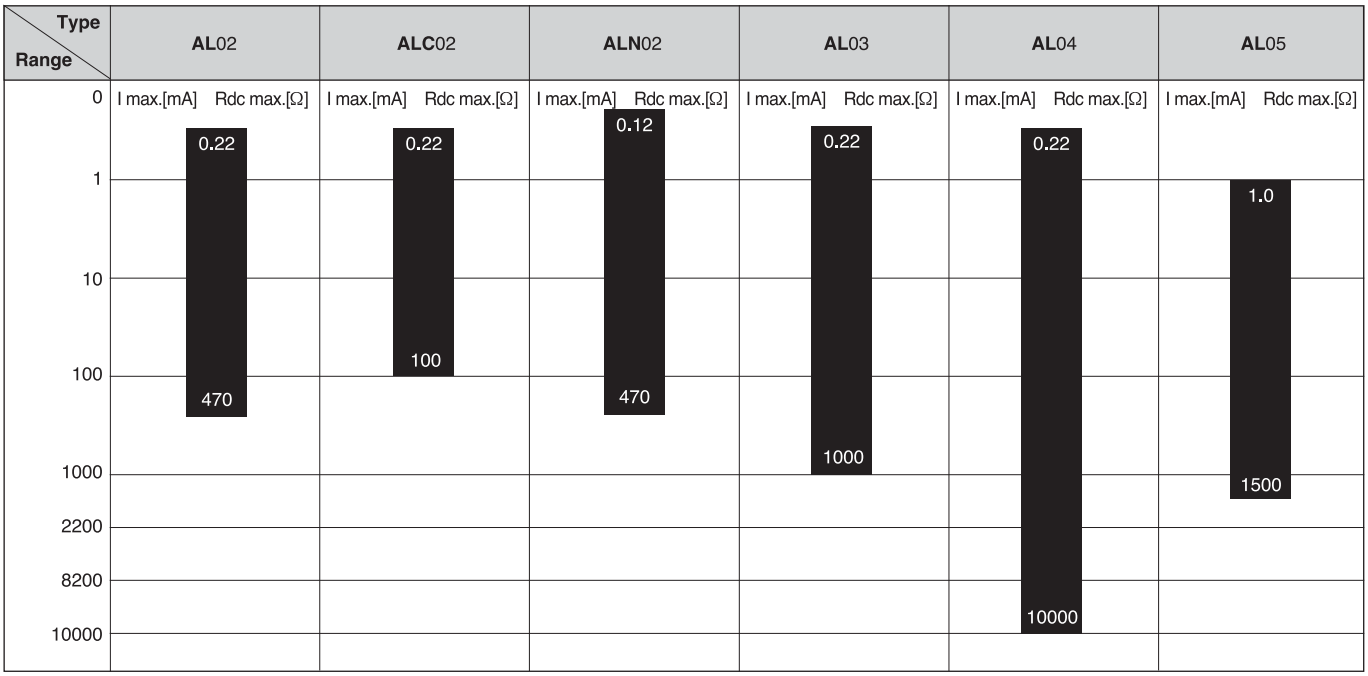
Unit: mm

Type	Dimensions						Pitch Minimum insertion pitch
	ØD	L	a	b	| L1-L2 |	Ød	
AL02 ALC02	2.5max.	3.4max.	26 $^{+0.5}_{-0}$	0.8max.	0.5max.	0.45 ± 0.05	5.0
ALN02	2.5max.	3.7max.	26 $^{+0.5}_{-0}$	0.8max.	0.5max.	0.45 ± 0.05	5.0
AL03	3.0max.	7.0max.	26 $^{+1}_{-0.5}$	0.8max.	1.0max.	0.50 ± 0.05	10.0

Unit: mm

Type	Dimensions						Pitch Minimum insertion pitch
	ØD	L	a	b	| L1-L2 |	Ød	
AL02 ALC02	2.5max.	3.4max.	52 $^{+2}_{-1}$	1.2max.	1.0max.	0.50 ± 0.05	5.0
ALN02	2.5max.	3.7max.	52 $^{+2}_{-1}$	1.2max.	1.0max.	0.50 ± 0.05	7.5
AL03	3.0max.	7.0max.	52 $^{+2}_{-1}$	1.2max.	1.0max.	0.50 ± 0.05	10.0
AL04	4.2max.	9.8max.	52 $^{+2}_{-1}$	1.2max.	1.0max.	0.65 ± 0.05	12.5
AL05	4.5max.	14.0max.	52 $^{+2}$	1.2max.	1.0max.	0.50 ± 0.05	20.0

AVAILABLE INDUCTANCE RANGE



● Examples

Inductance	I max. [mA]	Rdc max. [Ω]	I max. [mA]	Rdc max. [Ω]	I max. [mA]	Rdc max. [Ω]	I max. [mA]	Rdc max. [Ω]	I max. [mA]	Rdc max. [Ω]	I max. [mA]	Rdc max. [Ω]
1 μH	270	0.8	510	0.4	500	0.32	270	0.8	920	0.19	5600	0.022
10 μH	160	2.3	270	1.4	280	1.0	160	2.3	500	0.58	2100	0.062
100 μH	44	12	105	9.1	120	5.6	90	7.0	275	1.80	700	0.480
1000 μH	-		-		-		40	33.0	100	14.0	240	5.800
2200 μH	-		-		-		-		80	40.0	-	
8200 μH	-		-		-		-		45	116.0	-	
10000 μH	-		-		-		-		35	148.0	-	

ITEM PART NUMBERS

● AL02

Ordering Code	Inductance [μH]	Inductanced Tolerance	Q (min.)	Measuring Frequency [MHz]	Self-Resonant Frequency [MHz] (min.)	DC Resistance [Ω] (max.)	Rate Current [mA] (max.)
AL02T○R22K	0.22	± 10% (± 5%)	35	25.2	410	0.40	400
AL02T○R27K	0.27				410	0.43	380
AL02T○R33K	0.33				360	0.48	370
AL02T○R39K	0.39				300	0.51	350
AL02T○R47K	0.47				230	0.56	330
AL02T○R56K	0.56				210	0.61	320
AL02T○R68K	0.68				190	0.67	310
AL02T○R82K	0.82				170	0.74	290
AL02T○1R0K	1.0				150	0.80	270
AL02T○1R2K	1.2		40	7.96	110	0.90	260
AL02T○1R5K	1.5				80	1.0	250
AL02T○1R8K	1.8				60	1.1	240
AL02T○2R2K	2.2				45	1.2	230
AL02T○2R7K	2.7				40	1.3	220
AL02T○3R3K	3.3				38	1.4	210
AL02T○3R9K	3.9				35	1.6	200
AL02T○4R7K	4.7				32	1.7	190
AL02T○5R6K	5.6				30	1.9	180
AL02T○6R8K	6.8				28	2.0	175
AL02T○8R2K	8.2				26	2.2	165
AL02T○100K	10				24	2.3	160
AL02T○120K	12			2.52	22	2.5	150
AL02T○150K	15				20	2.8	145
AL02T○180K	18				18	3.1	140
AL02T○220K	22				17	3.4	130
AL02T○270K	27				16	4.3	80
AL02T○330K	33				14	4.7	76
AL02T○390K	39				13	5.2	74
AL02T○470K	47				12	5.8	70
AL02T○560K	56				11	6.4	68
AL02T○680K	68				10	7.2	64
AL02T○820K	82				9.5	11	46
AL02T○101K	100				9.0	12	44
AL02T○121K	120			0.796	8.0	13	42
AL02T○151K	150				6.0	16	39
AL02T○181K	180				5.5	18	37
AL02T○221K	220				5.0	20	35
AL02T○271K	270				4.6	26	28
AL02T○331K	330				4.4	27	26
AL02T○391K	390				4.1	28	25
AL02T○471K	470				3.7	30	24

*please specify the taping configuration code.
*○ : A, B, R

ITEM PART NUMBERS

● ALC02

Ordering Code	Inductance [μH]	Inductanced Tolerance	Q (min.)	Measuring Frequency [MHz]	Self-Resonant Frequency [MHz] (min.)	DC Resistance [Ω] (max.)	Rate Current [mA] (max.)
ALC02T○R22K	0.22	10%	50	25.2	450	0.2	730
ALC02T○R27K	0.27				400	0.21	700
ALC02T○R33K	0.33				350	0.23	670
ALC02T○R39K	0.39				320	0.25	640
ALC02T○R47K	0.47				300	0.27	620
ALC02T○R56K	0.56				280	0.3	590
ALC02T○R68K	0.68				240	0.33	570
ALC02T○R82K	0.82				210	0.35	540
ALC02T○1R0K	1				190	0.4	510
ALC02T○1R2J	1.2	5%		7.96	110	0.43	490
ALC02T○1R5J	1.5				80	0.48	460
ALC02T○1R8J	1.8				70	0.53	440
ALC02T○2R2J	2.2				60	0.6	420
ALC02T○2R7J	2.7				55	0.68	390
ALC02T○3R3J	3.3				50	0.75	370
ALC02T○3R9J	3.9				45	0.83	350
ALC02T○4R7J	4.7		40		40	0.91	340
ALC02T○5R6J	5.6				35	1	320
ALC02T○6R8J	6.8				30	1.1	300
ALC02T○8R2J	8.2		35		26	1.3	290
ALC02T○100J	10				24	1.4	270
ALC02T○120J	12		40	2.52	22	1.4	270
ALC02T○150J	15				20	1.6	260
ALC02T○180J	18				18	1.7	250
ALC02T○220J	22				17	1.9	230
ALC02T○270J	27		40		16	2.5	200
ALC02T○330J	33				14	3.4	180
ALC02T○390J	39				13	3.6	170
ALC02T○470J	47				12	4.6	150
ALC02T○560J	56				11	5.1	140
ALC02T○680J	68				10	5.6	130
ALC02T○820J	82				9.5	7.9	115
ALC02T○101J	100				9	9.1	105

*please specify the taping configuration code.

*○ : A, B, R

● ALN02

Ordering Code	Inductance [μH]	Inductanced Tolerance	Q (min.)	Measuring Frequency [MHz]	Self-Resonant Frequency [MHz] (min.)	DC Resistance [Ω] (max.)	Rate Current [mA] (max.)
ALN02T○R12K	0.12	± 10% (± 5%)	50	25.2	500	0.12	850
ALN02T○R15K	0.15				500	0.14	800
ALN02T○R18K	0.18				500	0.15	760
ALN02T○R22K	0.22				500	0.16	730
ALN02T○R27K	0.27				500	0.18	690
ALN02T○R33K	0.33				480	0.19	660
ALN02T○R39K	0.39				430	0.21	640
ALN02T○R47K	0.47				380	0.23	610
ALN02T○R56K	0.56				350	0.25	580
ALN02T○R68K	0.68				310	0.27	550
ALN02T○R82K	0.82				270	0.29	520
ALN02T○1R0K	1.0				240	0.32	500
ALN02T○1R2K	1.2			7.96	210	0.35	480
ALN02T○1R5K	1.5				190	0.38	450
ALN02T○1R8K	1.8				140	0.42	430
ALN02T○2R2K	2.2				90	0.47	410
ALN02T○2R7K	2.7				70	0.52	390
ALN02T○3R3K	3.3				50	0.57	370
ALN02T○3R9K	3.9		40		35	0.63	360
ALN02T○4R7K	4.7				32	0.69	340
ALN02T○5R6K	5.6				30	0.75	320
ALN02T○6R8K	6.8				28	0.84	310
ALN02T○8R2K	8.2				26	0.92	290
ALN02T○100K	10				24	1.0	280
ALN02T○120K	12			2.52	22	1.0	280
ALN02T○150K	15				20	1.2	265
ALN02T○180K	18				18	1.3	250
ALN02T○220K	22				17	1.5	235
ALN02T○270K	27				15	1.7	220
ALN02T○330K	33		50		14	2.2	180
ALN02T○390K	39				13	2.4	170
ALN02T○470K	47				12	2.8	160
ALN02T○560K	56				10	4.1	140
ALN02T○680K	68				9.2	4.5	130
ALN02T○820K	82				8.8	5.0	125
ALN02T○101K	100				8.0	5.6	120
ALN02T○121K	120			0.796	6.6	9.2	90
ALN02T○151K	150				5.8	10.5	85
ALN02T○181K	180				5.4	11.5	80
ALN02T○221K	220				4.8	13.0	75
ALN02T○271K	270				3.6	16.0	70
ALN02T○331K	330				3.4	18.0	66
ALN02T○391K	390				3.2	20.0	63
ALN02T○471K	470				3.0	22.0	60

*please specify the taping configuration code.
*○ : A, B, R

ITEM PART NUMBERS

● AL03

Ordering Code	Inductance [μH]	Inductanced Tolerance	Q (min.)	Measuring Frequency [MHz]	Self-Resonant Frequency [MHz] (min.)	DC Resistance [Ω] (max.)	Rate Current [mA] (max.)
AL03T○R22K	0.22	± 10% (± 5%)	35	25.2	450	0.40	400
AL03T○R27K	0.27				410	0.43	380
AL03T○R33K	0.33				360	0.48	370
AL03T○R39K	0.39				300	0.51	350
AL03T○R47K	0.47				230	0.56	330
AL03T○R56K	0.56		40		210	0.61	320
AL03T○R68K	0.68				190	0.67	310
AL03T○R82K	0.82				170	0.74	290
AL03T○1R0K	1.0				150	0.80	270
AL03T○1R2K	1.2		50	7.96	144	0.90	260
AL03T○1R5K	1.5				131	1.0	250
AL03T○1R8K	1.8				121	1.1	240
AL03T○2R2K	2.2				110	1.2	230
AL03T○2R7K	2.7				100	1.3	220
AL03T○3R3K	3.3				94	1.4	210
AL03T○3R9K	3.9				65	1.6	200
AL03T○4R7K	4.7				56	1.7	190
AL03T○5R6K	5.6				48	1.9	180
AL03T○6R8K	6.8				37	2.0	175
AL03T○8R2K	8.2				25	2.2	165
AL03T○100K	10				21	2.3	160
AL03T○120K	12			2.52	19	2.5	150
AL03T○150K	15				17	2.8	145
AL03T○180K	18				13	3.1	140
AL03T○220K	22				9.6	3.4	130
AL03T○270K	27				7.2	3.8	125
AL03T○330K	33				6.3	4.1	120
AL03T○390K	39				6.3	4.5	115
AL03T○470K	47				6.3	4.9	110
AL03T○560K	56				6.2	5.3	105
AL03T○680K	68				5.7	5.8	100
AL03T○820K	82				5.3	6.3	95
AL03T○101K	100				4.8	7.0	90
AL03T○121K	120			0.796	3.8	13	90
AL03T○151K	150				3.5	15	85
AL03T○181K	180				3.3	16	80
AL03T○221K	220				3.0	17	75
AL03T○271K	270				2.8	19	65
AL03T○331K	330				2.6	20	60
AL03T○391K	390				2.4	22	55
AL03T○471K	470				2.25	24	55
AL03T○561K	560				2.10	26	50
AL03T○681K	680				1.95	28	45
AL03T○821K	820				1.85	30	40
AL03T○102K	1000				1.40	33	40

*please specify the taping configuration code.
*○ : A, B, R

● AL04

Ordering Code	Inductance [μH]	Inductanced Tolerance	Q (min.)	Measuring Frequency [MHz]	Self-Resonant Frequency [MHz] (min.)	DC Resistance [Ω] (max.)	Rated Current [mA] (max.)
AL04TO R22K	0.22	± 10% (± 5%)	45	25.2	300	0.10	1400
AL04TO R27K	0.27				270	0.11	1320
AL04TO R33K	0.33				250	0.12	1280
AL04TO R39K	0.39				230	0.13	1200
AL04TO R47K	0.47				220	0.14	1150
AL04TO R56K	0.56				200	0.15	1100
AL04TO R68K	0.68				190	0.16	1030
AL04TO R82K	0.82				172	0.17	980
AL04TO 1R0K	1.0				157	0.19	920
AL04TO 1R2K	1.2		50	7.96	144	0.21	880
AL04TO 1R5K	1.5				131	0.23	830
AL04TO 1R8K	1.8		55		121	0.25	790
AL04TO 2R2K	2.2				110	0.28	750
AL04TO 2R7K	2.7		60		100	0.30	720
AL04TO 3R3K	3.3		65		94	0.34	670
AL04TO 3R9K	3.9				65	0.37	640
AL04TO 4R7K	4.7		70		56	0.39	620
AL04TO 5R6K	5.6				48	0.43	590
AL04TO 6R8K	6.8		75		37	0.48	550
AL04TO 8R2K	8.2		80		25	0.52	530
AL04TO 100K	10		65		21	0.58	500
AL04TO 120K	12		50	2.52	19	0.63	480
AL04TO 150K	15				17	0.72	460
AL04TO 180K	18				13	0.77	430
AL04TO 220K	22				9.6	0.84	410
AL04TO 270K	27		55		7.2	0.94	390
AL04TO 330K	33				6.3	1.03	370
AL04TO 390K	39		50		6.3	1.12	350
AL04TO 470K	47		45		6.3	1.22	340
AL04TO 560K	56		40		6.2	1.34	320
AL04TO 680K	68				5.7	1.47	305
AL04TO 820K	82		35		5.3	1.62	290
AL04TO 101K	100		30		4.8	1.80	275
AL04TO 121K	120		55	0.796	3.8	3.70	185
AL04TO 151K	150		45		3.5	4.20	175
AL04TO 181K	180		50		3.3	4.60	165
AL04TO 221K	220		55		3.0	5.10	155
AL04TO 271K	270		65		2.8	5.80	145
AL04TO 331K	330				2.6	6.40	137
AL04TO 391K	390				2.4	7.00	133
AL04TO 471K	470		60		2.25	7.70	126
AL04TO 561K	560				2.10	8.50	120
AL04TO 681K	680		55		1.95	9.40	113
AL04TO 821K	820				1.85	10.5	105
AL04TO 102K	1000		50		1.40	14.0	100
AL04TO 122K	1200		50	0.252	1.20	22.0	110
AL04TO 152K	1500				1.10	25.0	100
AL04TO 182K	1800				0.98	28.0	90
AL04TO 222K	2200				0.90	40.0	80
AL04TO 272K	2700				0.85	44.0	70
AL04TO 332K	3300				0.81	50.0	70
AL04TO 392K	3900		40		0.72	63.0	60
AL04TO 472K	4700				0.60	69.0	55
AL04TO 562K	5600				0.55	77.0	50
AL04TO 682K	6800				0.50	104.0	45
AL04TO 822K	8200				0.48	116.0	45
AL04TO 103K	10000		30		0.40	148.0	35

*please specify the taping configuration code.

*O : A, B, R

ITEM PART NUMBERS

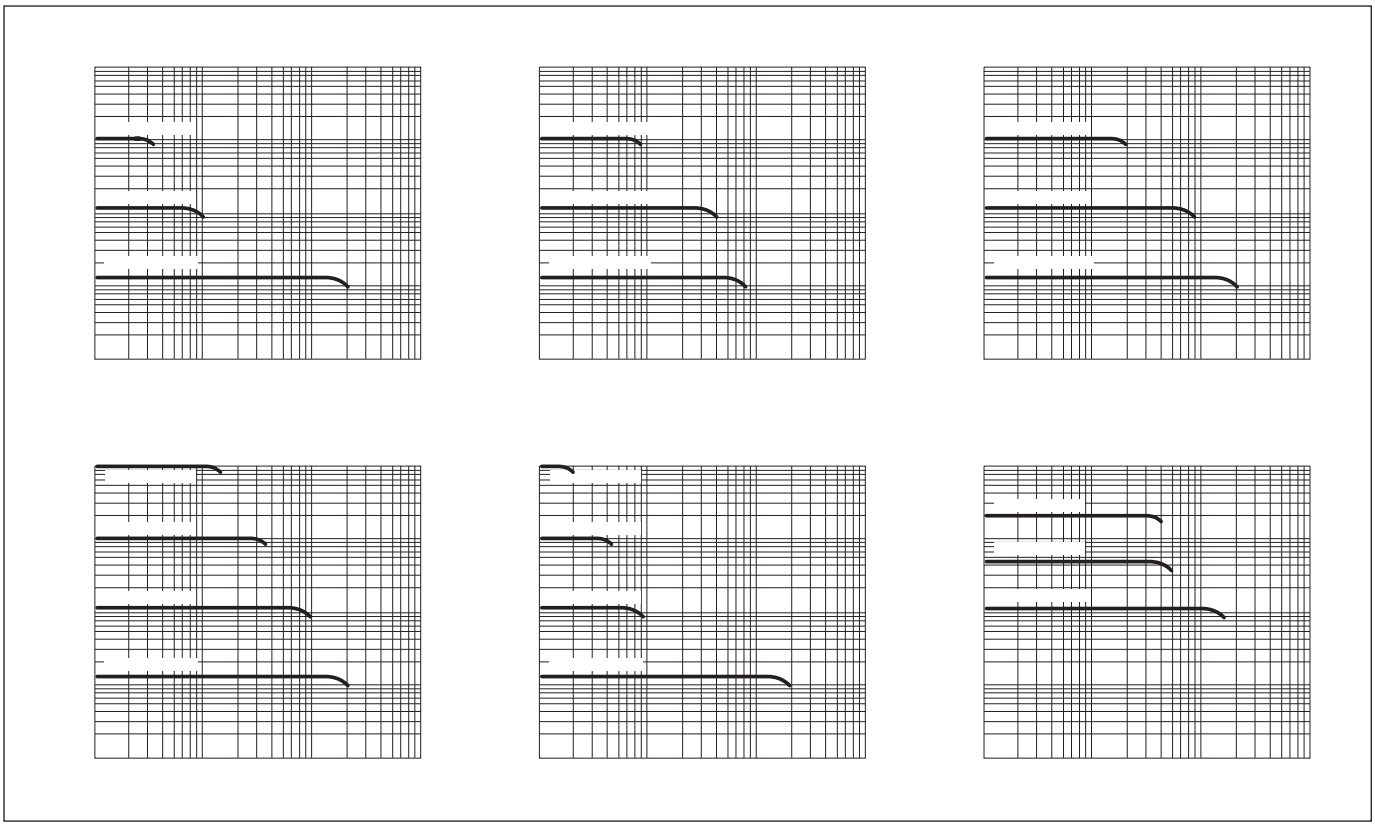
● AL05

Ordering Code	Inductance [μH]	Inductanced Tolerance	Q (min.)	Measuring Frequency [MHz]	Self-Resonant Frequency [MHz] (min.)	DC Resistance [Ω] (max.)	Rate Current [mA] (max.)
AL05T○1R0K	1.0	± 10%	10	7.96	300	0.022	5600
AL05T○1R2K	1.2				260	0.024	5500
AL05T○1R5K	1.5				250	0.026	5000
AL05T○1R8K	1.8				240	0.029	4700
AL05T○2R2K	2.2				220	0.031	4500
AL05T○2R7K	2.7				195	0.034	4000
AL05T○3R3K	3.3				155	0.038	3400
AL05T○3R9K	3.9				115	0.040	3100
AL05T○4R7K	4.7				85	0.044	2800
AL05T○5R6K	5.6				55	0.048	2600
AL05T○6R8K	6.8				50	0.051	2400
AL05T○8R2K	8.2				38	0.056	2200
AL05T○100K	10				24	0.062	2100
AL05T○120K	12			2.52	18	0.076	1800
AL05T○150K	15				16	0.088	1700
AL05T○180K	18				15	0.110	1600
AL05T○220K	22				14	0.130	1400
AL05T○270K	27				13	0.140	1300
AL05T○330K	33				11	0.200	1200
AL05T○390K	39				10	0.220	1100
AL05T○430K	43				9.5	0.280	1000
AL05T○470K	47				9.5	0.280	1000
AL05T○560K	56				8.0	0.300	900
AL05T○680K	68				7.5	0.340	800
AL05T○820K	82				7.0	0.385	700
AL05T○101K	100				6.5	0.480	700
AL05T○121K	120		15	0.796	5.0	0.595	600
AL05T○151K	150				4.5	0.900	550
AL05T○181K	180				4.0	1.10	500
AL05T○221K	220				3.8	1.25	440
AL05T○271K	270				3.5	1.85	420
AL05T○331K	330				3.0	2.10	380
AL05T○391K	390				2.8	2.28	340
AL05T○471K	470				2.5	3.22	320
AL05T○561K	560				2.2	3.85	290
AL05T○681K	680				2.1	4.00	260
AL05T○821K	820				2.0	5.00	250
AL05T○102K	1000				1.8	5.80	240
AL05T○122K	1200			0.252	1.6	7.10	200
AL05T○152K	1500				1.5	7.80	190

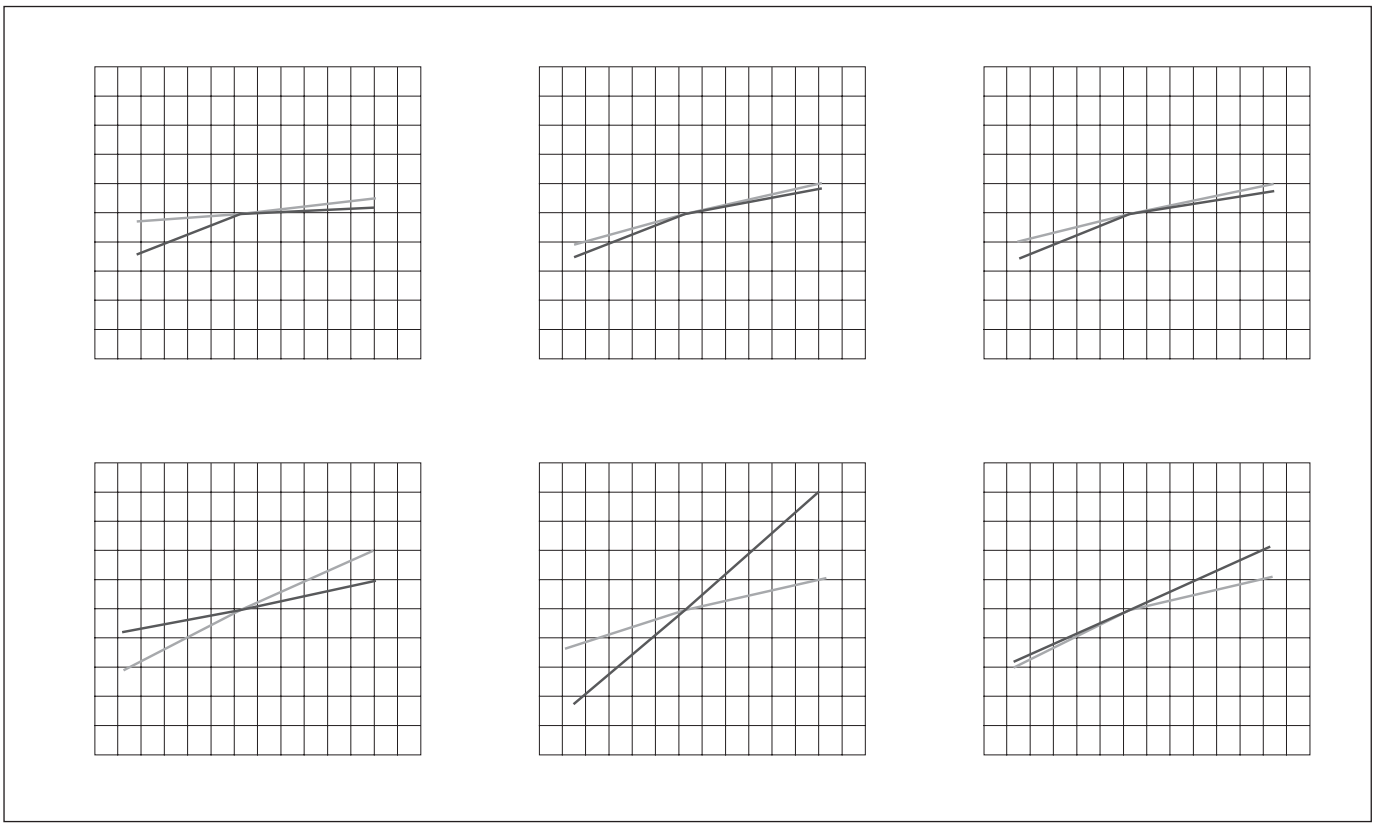
*please specify the taping configuration code.
*○ : A, B, R

ELECTRICAL CHARACTERISTICS

● DC Bias Characteristics (Measured by HP4284A + HP42841A)

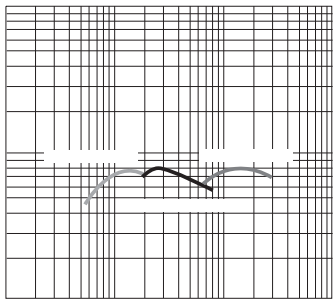
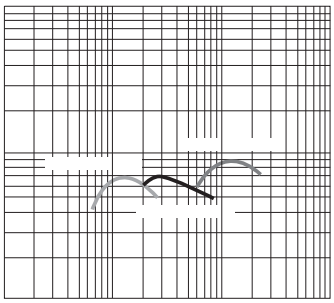
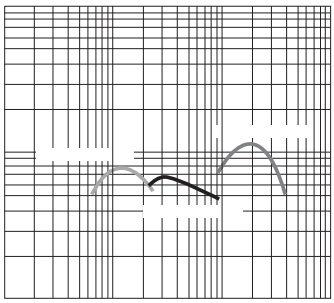
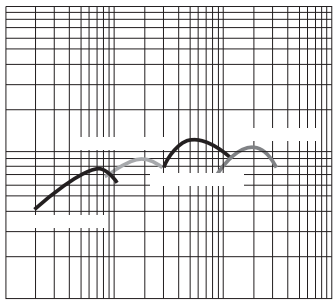
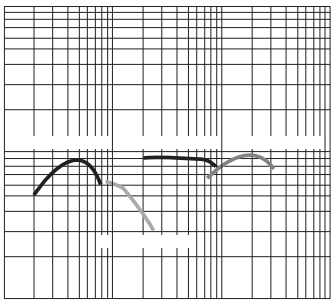
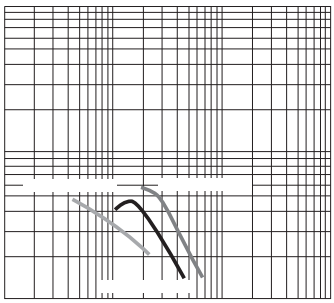


●Temperature Characteristics(Measured by HP4284A + HP42841A)



ELECTRICAL CHARACTERISTICS

● Q-Characteristics(Measured by HP 4285A + HP 42851A)

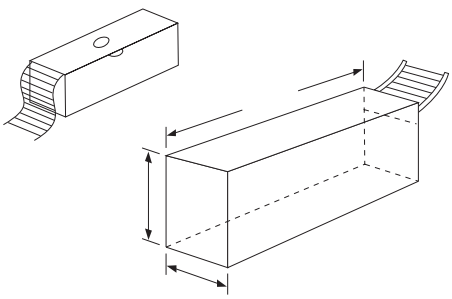
RELIABILITY

Item		Specified Value			Test Methods and Remarks
		AL02, AL03 Type	AL04 Type	AL05 Type	
1. Operating Temperature Range		-25 ~ +85℃			Including self-generated heat.
2. Storage Temperature Range		-40 ~ +85℃			
3. Q		Within the specified tolerance			Measuring equipment: LCR meter(HP4285A+42851A or its equivalent) Measuring frequency: Specified frequency
4. Self Resonant Frequency		Within the specified tolerance			Measuring equipment: (Dip meter or its equivalent)
5. DC Resistance		Within the specified tolerance			Measuring equipment: m+J80Ω Hi Tester(3226 or its equivalent)
6. DC Bias Characteristics		ΔL/L → Within -10%			Measure inductance with application of rated current using LCR meter to compare it with the initial value.
7. Temperature Characteristics		ΔL/L → Within ±5%			Change of maximum inductance deviation in step 1 to 5 Step / Temperature(℃): 1: 20; 2: -25 (Minimum operating temperature); 3: 20 (Reference temperature); 4: +85 (Maximum operating temperature); 5: 20
8. Inductance		Within the Specified tolerance			Measuring equipment: LCR meter (HP4285A+42851A or its equivalent) Measuring frequency: Specified frequency
9. Rated Current		Within the specified tolerance			The maximum DC value having inductance decrease within 10% and temperature increase within 20℃ by the application of DC bias
10.Terminal Strength	Tensile	No abnormality such as cutoff or looseness of lead			Apply the stated tensile force progressively in the direction to draw terminal Nominal wire diameter(mm) / Tensile force(N) / Duration(S): 0.43<Ød ≦0.65 / 25 / 5
	Bending	No abnormality such as cutoff or looseness of lead			Suspend a mass at the terminal, incline the body through angle of 90° and return it to intial position is This operation is done over a period of 2~3 sec. Then a second bend in the opposite direction shall be made. Number of bends: Two times Nominal wire diameter(mm) / Bending force(N) / Mass weight(kg): 0.3<Ød ≦0.5 / 2.5 / 0.25; 0.5<Ød ≦0.8 / 5 / 0.5
11. Body Strength		No abnormality such as damage			AL02 Applied force: 30N Duration: 10 sec. Speed: Shall attain to specified force in 2 sec. AL03, 04, 05 Applied force: 50N Duration: 10 sec. Speed: Shall attain to specified force in 2 sec.
12. Resistance to vibration		ΔL/L → Within ±5% Q → 30 min.	ΔL/L → Within ±5% Q/Q → Within ±10%	ΔL/L → Within ±5% Q → 15 min.	According to JIS C 5102 clause 8.2 Vibration type: A Duration: 2 hrs each in X, Y and Z directions Total: 6 hrs Frequency range: 10 to 55 to 10 Hz(1min.) Amplitude: 1.5 mm Mountiong method: Soldering onto printed board Recovery: At least 1 hr of recovery under the standard condition after the test, followed by the measurement within 2 hrs.
13. Resistance to Shock		No significant abnormality in appearance	No significant abnormality in appearance	No significant abnormality in appearance	Drop test impact materal: Concrete of vinyl tile Height: 1m Total number of drops: 10 times
14. Solderability		At least 75% of terminal electrode is covered by new solder			Solder temperature: 230 ± 5℃ Duration: 3 ± 0.5 sec.
15. Resistance to Soldering Heat		No significant abnormality in appearance	No significant abnormality in appearance	ΔL/L → Within ±5% Q → 15 min.	Solder temperature: 270 ± 5℃ Duration: 5 ± 0.5 sec. Immersed conditions: inserted into substrate with t = 1.6 mm Recovery: At least 1 hr of recovery under the standard condition after the test, followed by the measurement within 2 hrs.

Item	Specified Value			Test Methods and Remarks
	AL02, AL03 Type	AL04 Type	AL05 Type	
16. Resistance to Solvent	Please avoid the ultrasonic cleaning of this product.			
17. Thermal shock	ΔL/L → Within ±10% Q → 30min.	ΔL/L → Within ±10% Q/Q → Within ±30%	ΔL/L → Within ±5% Q → 15min.	Conditions for 1 cycle Step 1: -25 $^{+0}_{-3}$ °C, 30 ± 3 Step 2: Room temperature, within 3 Step 3: +85 $^{+2}_{-0}$ °C, 30 ± 3 Step 4: Room temperature, within 3 Number of cycles: 5 cycles Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.
18. Damp Heat	ΔL/L → Within ±10% Q → 30min.	ΔL/L → Within ±10% Q/Q → Within ±30%	ΔL/L → Within ±5% Q → 15min.	- Temperature: 40 ± 2°C - Humidity: 90 to 95% RH - Duration: 1000hrs - Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.
19. Loading under Tensile Damp Heat	ΔL/L → Within ±10% Q → 30min.	ΔL/L → Within ±10% Q/Q → Within ±30%	ΔL/L → Within ±5% Q → 15min.	- Temperature: 40 ± 2°C - Humidity: 90 to 95% RH - Duration: 1000hrs - Applied current: Rated current - Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.
20. Loading at High Temperature	ΔL/L → Within ±10% Q → 30min.	ΔL/L → Within ±10% Q/Q → Within ±30%	ΔL/L → Within ±5% Q → 15min.	- Temperature: 85 ± 2°C - Duration: 1000hrs - Applied current: Rated current - Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.
21. Low Temperature Life Test	ΔL/L → Within ±10% Q → 30min.	ΔL/L → Within ±10% Q/Q → Within ±30%	ΔL/L → Within ±5% Q → 15min.	- Temperature: -25 ± 2°C - Duration: 1000hrs - Applied current: Rated current - Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.

Note on standard condition: "standard condition" referred to herein is defined as follows.
5 to 35°C of temperature, 45 to 85% relative humidity and 86 to 106kPa of air pressure.
When there are questions concerning measurement results: In order to provide correlation data, the test shall be conducted under condition of 20±2°C of temperatue, 45 to 85% relative humidity and 86 to 106kPa of air pressure Unless otherwise specified, all the tests are conducted under the "standard condition"

■ PACKING

Type		Taping Lead Style	Inner Box		Out Box			Item
			Size(m/m) (W × H × L)	Quantity	Size(m/m) (W × H × L)	Quantity	Weight (100μH)	
	TA	26m/m	50×65×252	2,000	285×260×455	54,000	8.5kg	AL02
								ALC02
							9.5kg	ALN02
							11kg	AL03
	TB	52m/m	70×65×265	2,500	285×250×455	45,000	6kg	AL02
								ALC02, ALN02
			70×85×265	2,500	285×305×455		7kg	AL03
			70×110×355	2,500	330×260×485	30,000	6kg	AL04
			70×110×355	2,000		24,000	10kg	AL05
	TR	52m/m	280×280 (A×A)	5,000	460×320×600	50,000	14kg	AL02
								ALC02
				4,000		40,000	14kg	AL03
				2,500		25,000	16kg	AL04

■ AVAILABLE INDUCTANCE RANGE

TYPE	Magnetic style	ITEM	Dimensions (mm)			Inductance Range(H)					Application
			L	W	H	1u	10u	100u	1m	10m	
SMD	Non shielded	LPN4532	4.5	4.0	3.2	1.0	68				**Power Line Circuit** (CCD camera, TV, VIDEO, Set top box, ADSL, etc.)
		LPN5845	5.8	5.2	4.5	10	220				
		LPN7850	7.8	7.0	5.0	10	470				
		LPN1040	10.0	9.0	4.0	10	470				
		LPN1054	10.0	9.0	5.4	10	680				
	shielded	LPF2010	2.0	2.0	1.0	1.5	10				**DC/DC converter** (Mobile phone,DSC, Camcorder,PDA,MP3) EL back light
		LPF2015	2.0	2.0	1.4	1.5	22				
		LPF2015-C	2.0	2.0	1.4	1.5	15				
		LPF3010	2.8	2.8	1.0	1.5	22				
		LPF3015	2.8	2.8	1.4	1.5	68				
		LPF3015-C	2.8	2.8	1.5	1.5	47				
		LPF4017	3.8	4.7	1.7	2.2	47				
		LPF4027	4.2	6.6	2.7	1.5	4700				
		LPF4027-B	4.2	6.6	2.7	1.0	4700				
		LPF5017	7.0	7.0	3.2	1.0	47				
		LPF6025	6.0	6.0	2.5	1.5	100				
		LPF6028	6.0	6.0	2.8	1.5	220				**Power Line Circuit** (Note PC, ADSL, Cable Modem, DVR, D/TV,Set top box,etc)
		LPF7028	7.0	7.0	2.8	3.3	100				
		LPF7030	7.0	7.0	3.0	1	10				
		LPF7032	7.0	7.0	3.2	3.3	1000				
		LPF7045	7.0	7.0	4.5	1.2	680				
		LPF7045-C	7.0	7.0	4.5	1	10				
		LPF1040	10.2	10.0	3.8	1.8	220				
		LPF1245	12.0	12.0	4.5	1.5	100				
		LPF1260	12.0	12.0	6.0	10	1000				**Power Line Circuit** (WLL, LCD monitor, Set top box etc.)
		LPF1280	12.0	12.0	8.0	1	2200				
		LPM1235	12.8	13.7	3.5	0.5~1.0					**DC/DC converter**(Note PC) **PDP Power Circuit**
		LPM1250	12.8	13.7	5.0	0.5~2.0					

■ FEATURES

- LPN series:
  Small size wound chip inductor with DC resistance
  These parts can be used in high-density mounting configurations.
- LPF series:
  Low profile, low DC resistance,and high current handling capacities.
  Because they are magnetically shielded
- LPL series:
  This is a Low DC resistance,best for the power supply line.
  There is a series of many types from low inductance to high inductance in large current.
- LPM series:
  Low profile,high current,and low resistance.
  The low profile makes the inductor particularly optimal for power circuit applications requiring low voltages and high current.

■ APPLICATION

Mobile phone, Desk top PC,Note PC, Back Light, HDD, DC-DC
converter and other electronic equipment.

■ ORDERING CODE

LPF	3010	T	–4R7	M
1	2	3	4	5

1 Part name
LPF

2 Dimensions(mm)
L×W×H: 2.8×2.8×1.0

5 Inductance Tol. (%)	
J	±5
K	±10
M	±20
N	±30

3 Packing style	
T	Taping
B	Bulk

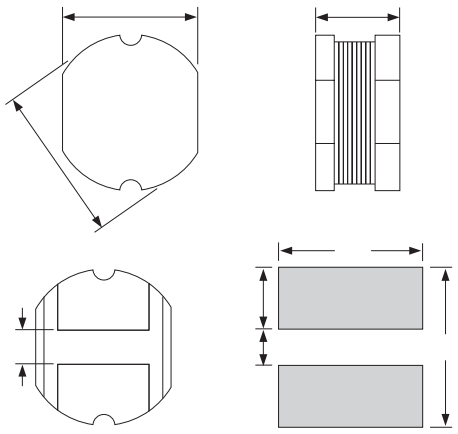
4 Inductance value[μH]	
4R7	4.7
100	10
680	68
101	100
102	1000
472	4700

LPN4532 SERIES

SMD Nonshielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current(A)
LPN4532T-1R0M	1.0	±20	100	0.048	2.7
LPN4532T-1R5M	1.5			0.056	2.6
LPN4532T-2R2M	2.2			0.071	1.9
LPN4532T-3R3M	3.3			0.086	1.7
LPN4532T-4R7M	4.7			0.108	1.5
LPN4532T-6R8M	6.8			0.131	1.3
LPN4532T-100K	10	±10		0.182	1.1
LPN4532T-150K	15			0.235	0.85
LPN4532T-220K	22			0.378	0.68
LPN4532T-330K	33			0.540	0.56
LPN4532T-470K	47			0.844	0.44
LPN4532T-680K	68			1.117	0.37

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Curren: Agilent 4284A + Agilent 42841A
- Inductance drop = 10%typ. at rated current

■ OPERATING TEMPERATURE RANGE

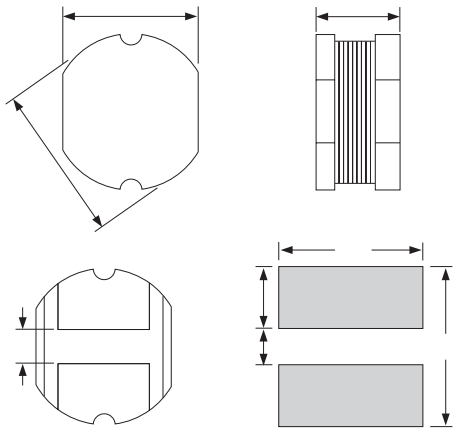
-20 ~ +85℃ (Including self-generated heat)

LPN5845 SERIES

SMD Nonshielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current(A)
LPN5845T-100K	10	±10	100	0.10	1.50
LPN5845T-150K	15			0.14	1.30
LPN5845T-220K	22			0.18	1.10
LPN5845T-330K	33			0.23	0.88
LPN5845T-470K	47			0.37	0.72
LPN5845T-680K	68			0.46	0.61
LPN5845T-101K	100			0.70	0.52
LPN5845T-151K	150			1.10	0.40
LPN5845T-221K	220			1.57	0.35

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- Inductance drop = 10%typ. at rated current

■ OPERATING TEMPERATURE RANGE

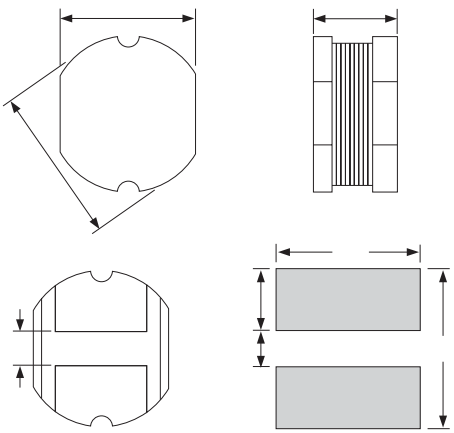
-20 ~ +85℃ (Including self-generated heat)

LPN7850 SERIES

SMD Nonshielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current(A)
LPN7850T-100K	10	±10	100	0.07	2.30
LPN7850T-150K	15			0.09	1.80
LPN7850T-220K	22			0.11	1.50
LPN7850T-330K	33			0.13	1.30
LPN7850T-470K	47			0.18	1.10
LPN7850T-680K	68			0.28	0.85
LPN7850T-101K	100			0.43	0.72
LPN7850T-151K	150			0.64	0.58
LPN7850T-221K	220			0.96	0.49
LPN7850T-331K	330			1.26	0.40
LPN7850T-471K	470			1.96	0.34

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- Inductance drop = 10%typ. at rated current

■ OPERATING TEMPERATURE RANGE

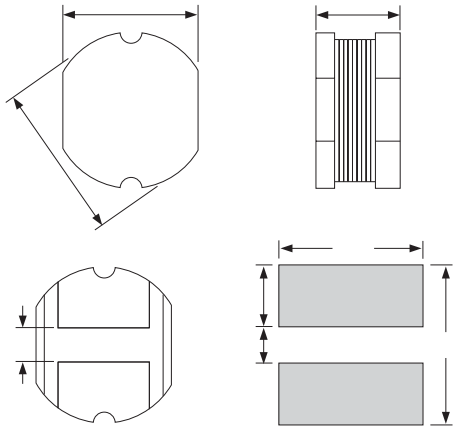
-20 ~ +85℃ (Including self-generated heat)

LPN1040 SERIES

SMD Nonshielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current(A)
LPN1040T-100K	10	± 10	100	0.053	2.38
LPN1040T-150K	15			0.070	1.87
LPN1040T-220K	22			0.088	1.60
LPN1040T-330K	33			0.120	1.26
LPN1040T-470K	47			0.170	1.10
LPN1040T-680K	68			0.223	0.91
LPN1040T-101K	100			0.344	0.74
LPN1040T-151K	150			0.544	0.61
LPN1040T-221K	220			0.721	0.53
LPN1040T-331K	330			1.100	0.42
LPN1040T-471K	470			1.526	0.35

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- Inductance drop = 10%typ. at rated current

■ OPERATING TEMPERATURE RANGE

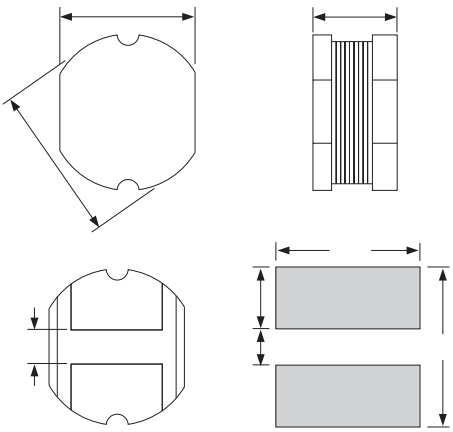
-20 ~ +85℃ (Including self-generated heat)

LPN1054 SERIES

SMD Nonshielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current(A)
LPN1054T-100K	10	± 10	100	0.060	2.60
LPN1054T-150K	15			0.080	2.27
LPN1054T-220K	22			0.100	1.95
LPN1054T-330K	33			0.120	1.50
LPN1054T-470K	47			0.170	1.28
LPN1054T-680K	68			0.220	1.11
LPN1054T-101K	100			0.350	0.97
LPN1054T-151K	150			0.470	0.78
LPN1054T-221K	220			0.730	0.66
LPN1054T-331K	330			1.150	0.52
LPN1054T-471K	470			1.480	0.42
LPN1054T-681K	680			2.250	0.28

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- Inductance drop = 10%typ. at rated current

■ OPERATING TEMPERATURE RANGE

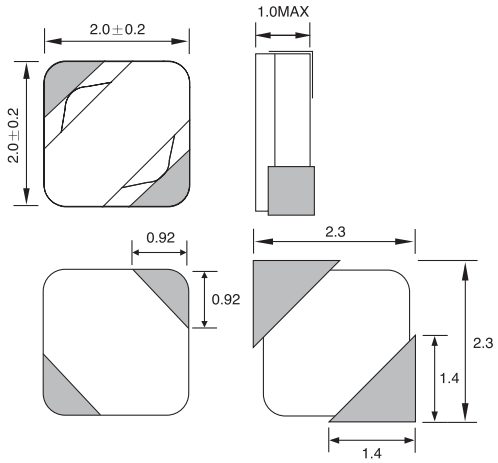
-20 ~ +85℃ (Including self-generated heat)

LPF2010 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	DC Resistance (Ω)Max. ( )is typical value.	Rated Current [A] Max.
LPF2010T-1R5M	1.5	±20	0.22(0.18)	0.62
LPF2010T-2R2M	2.2		0.25(0.20)	0.52
LPF2010T-3R3M	3.3		0.40(0.35)	0.45
LPF2010T-4R7M	4.7		0.45(0.40)	0.35
LPF2010T-6R8M	6.8		0.70(0.67)	0.30
LPF2010T-100M	10.0		0.88(0.83)	0.22

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- Rate Current: △L ≤ 30% reduction from nominal L value or
  △T ≤ 40℃ typical at rated current whichever is lower

■ OPERATING TEMPERATURE RANGE

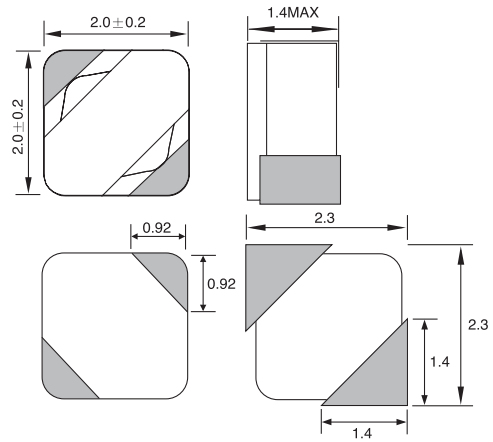
-30 ~ +85℃ (Including self-temp. rise)

LPF2015 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	DC Resistance (Ω)Max. ( )is typical value.	Rated Current [A] Max.
LPF2015T-1R5M	1.5	±20	0.11(0.09)	0.75
LPF2015T-2R2M	2.2		0.13(0.11)	0.55
LPF2015T-3R3M	3.3		0.20(0.18)	0.48
LPF2015T-4R7M	4.7		0.23(0.20)	0.40
LPF2015T-6R8M	6.8		0.35(0.32)	0.30
LPF2015T-100M	10.0		0.52(0.48)	0.25
LPF2015T-150M	15.0		0.85(0.80)	0.18
LPF2015T-220M	22.0		1.05(1.00)	0.15

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- Rate Current: △L ≤ 30% reduction from nominal L value or
  △T ≤ 40℃ typical at rated current whichever is lower

■ OPERATING TEMPERATURE RANGE

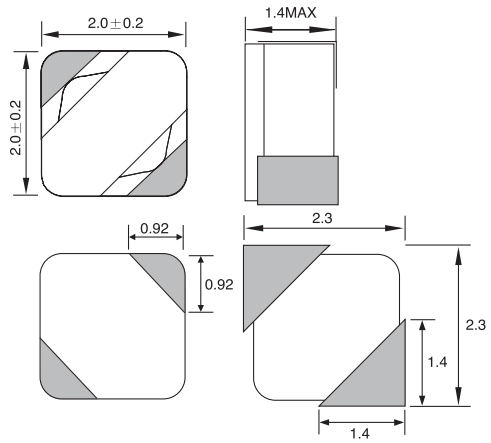
-30 ~ +85℃ (Including self-temp. rise)

LPF2015-C SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	DC Resistance (Ω)Max. ( )is typical value.	Rated Current [A] Max.
LPF2015T-1R5M-C	1.5	±20	0.15(0.12)	0.90
LPF2015T-2R2M-C	2.2		0.20(0.17)	0.75
LPF2015T-3R3M-C	3.3		0.28(0.24)	0.60
LPF2015T-4R7M-C	4.7		0.33(0.30)	0.50
LPF2015T-6R8M-C	6.8		0.50(0.46)	0.40
LPF2015T-100M-C	10.0		0.85(0.81)	0.30
LPF2015T-150M-C	15.0		1.05(1.00)	0.25

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- Rate Current: △L ≤ 30% reduction from nominal L value or
  △T ≤ 40℃ typical at rated current whichever is lower

■ OPERATING TEMPERATURE RANGE

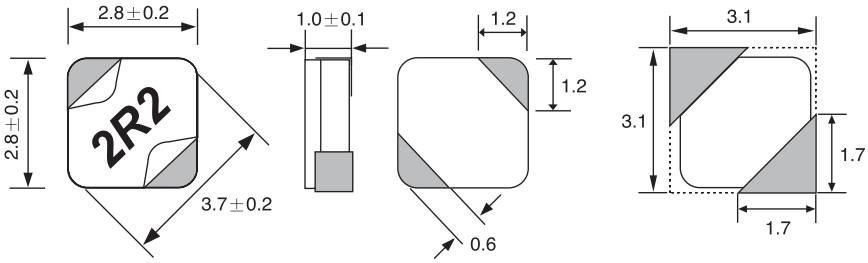
-30 ~ +85℃ (Including self-temp. rise)

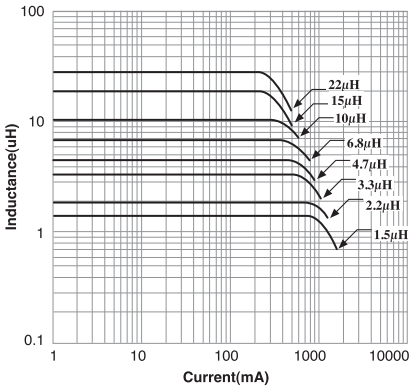
LPF3010 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)





■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter
  (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current):
  △L ≤ -35% reduction from nominal L value
- IDC2(The temperature rise):
  △T = 40℃ typical at rated current

■ OPERATING TEMPERATURE RANGE

-30 ~ +85℃ (Including self-temp. rise)

■ ELECTRICAL CHARACTERISTICS

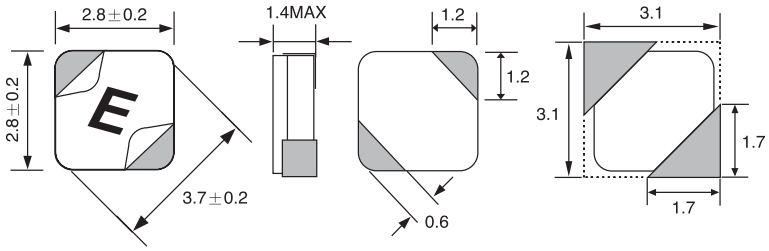
Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max. ( )is typical value.	Rated Current[A]		Marking
					IDC1 (Max.)	IDC2 (Typ.)	
LPF3010T-1R5N	1.5	±30	100	0.097(0.082)	1.20	1.90	1R5
LPF3010T-2R2N	2.2	±20		0.110(0.098)	1.00	1.20	2R2
LPF3010T-3R3N	3.3			0.200(0.180)	0.87	1.10	3R3
LPF3010T-4R7N	4.7			0.280(0.260)	0.70	1.00	4R7
LPF3010T-6R8N	6.8			0.340(0.320)	0.61	0.83	6R8
LPF3010T-100N	10.0			0.580(0.530)	0.45	0.56	100
LPF3010T-150N	15.0			0.860(0.790)	0.40	0.46	150
LPF3010T-220N	22.0			1.130(1.030)	0.33	0.41	220

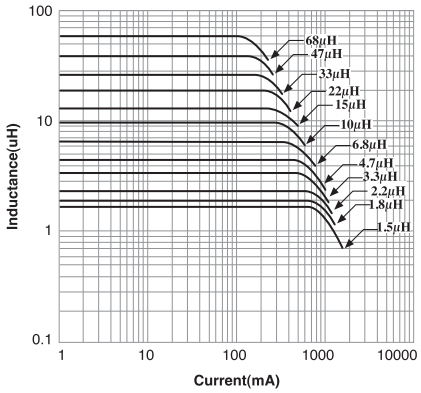
LPF3015 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)





■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ -35% reduction from nominal L value
- IDC2(The temperature rise): △T = 40℃ typical at rated current

■ OPERATING TEMPERATURE RANGE

-30 ~ +85℃ (Including self-temp. rise)

■ ELECTRICAL CHARACTERISTICS

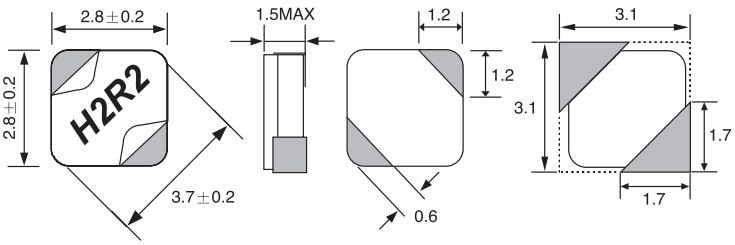
Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)±20% ( )is typical value.	Rated Current[A] IDC1 (Max.)	Rated Current[A] IDC2 (Typ.)	Marking
LPF3015T-1R5N	1.5	±30	100	0.041	1.00	2.00	A
LPF3015T-1R8N	1.8			0.050	0.98	1.80	B
LPF3015T-2R2M	2.2	±20		0.053	0.90	1.70	C
LPF3015T-3R3M	3.3			0.087	0.85	1.40	D
LPF3015T-4R7M	4.7			0.116	0.70	1.30	E
LPF3015T-6R8M	6.8			0.145	0.58	1.20	F
LPF3015T-100M	10			0.227	0.45	0.90	H
LPF3015T-150M	15			0.372	0.36	0.80	J
LPF3015T-220M	22			0.456	0.30	0.70	K
LPF3015T-330M	33			0.825	0.24	0.50	M
LPF3015T-470M	47			0.963	0.19	0.40	N
LPF3015T-680M	68			1.583	0.16	0.20	P

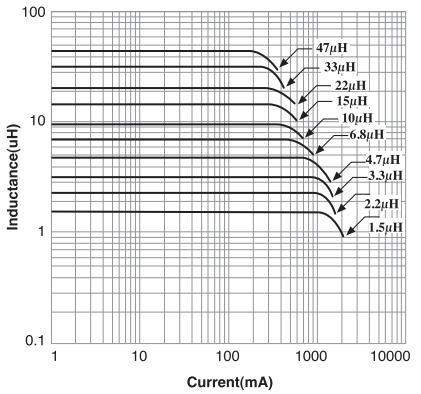
LPF3015-C SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)





■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ -35% reduction from nominal L value
- IDC2(The temperature rise): △T = 40℃ typical at rated current

■ OPERATING TEMPERATURE RANGE

-30 ~ +85℃ (Including self-temp. rise)

■ ELECTRICAL CHARACTERISTICS

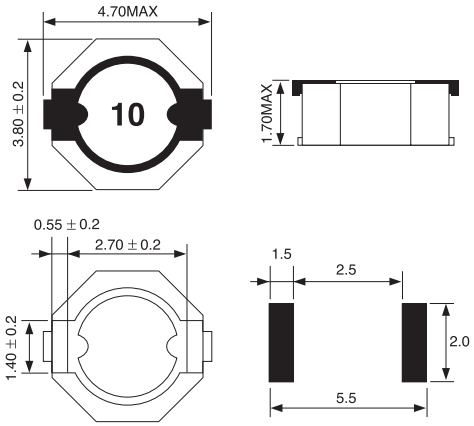
Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max. ( )is typical value.	Rated Current[A] IDC1 (Max.)	Rated Current[A] IDC2 (Typ.)	Marking
LPF3015T-1R5N-C	1.5	±30	100	0.069(0.062)	1.65	1.65	H1R5
LPF3015T-2R2M-C	2.2	±20		0.098(0.084)	1.40	1.40	H2R2
LPF3015T-3R3M-C	3.3			0.140(0.123)	1.10	1.20	H3R3
LPF3015T-4R7M-C	4.7			0.190(0.172)	0.90	1.10	H4R7
LPF3015T-6R8M-C	6.8			0.270(0.254)	0.85	0.90	H6R8
LPF3015T-100M-C	10			0.410(0.386)	0.68	0.75	H100
LPF3015T-150M-C	15			0.520(0.386)	0.58	0.65	H150
LPF3015T-220M-C	22			0.830(0.764)	0.48	0.50	H220
LPF3015T-330M-C	33			1.250(1.116)	0.35	0.40	H330
LPF3015T-470M-C	47			1.980(1.835)	0.30	0.30	H470

LPF4017 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (mΩ)Max ( )is typical value.	Rated Current(A)		Marking
					IDC1 (Max.)	IDC2 (Ref.)	
LPF4017T-2R2N	2.2	± 30	100	42(36)	1.00	2.10	A
LPF4017T-3R3N	3.3			54(45)	0.92	1.90	B
LPF4017T-3R9N	3.9			78(66)	0.80	1.70	C
LPF4017T-4R7N	4.7			90(75)	0.76	1.50	D
LPF4017T-6R8N	6.8			114(95)	0.62	1.30	E
LPF4017T-100M	10	± 20		156(131)	0.50	1.10	10
LPF4017T-150M	15			240(200)	0.40	0.88	15
LPF4017T-220M	22			348(290)	0.32	0.72	22
LPF4017T-330M	33			504(420)	0.28	0.58	33
LPF4017T-470M	47			744(620)	0.20	0.45	47

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 30% at rated current
- IDC2(The temperature rise): △T = 30℃ at rated current

■ OPERATING TEMPERATURE RANGE

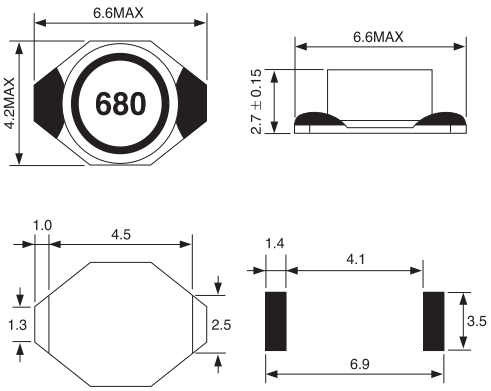
-20 ~ +85℃ (Including self-generated heat)

LPF4027 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current(A)
LPF4027T-1R5M	1.5	± 20	100	0.045	2.80
LPF4027T-2R2M	2.2			0.050	1.80
LPF4027T-3R3M	3.3			0.055	1.60
LPF4027T-4R7M	4.7			0.060	1.40
LPF4027T-6R8M	6.8			0.065	1.20
LPF4027T-100M	10			0.075	1.00
LPF4027T-150M	15			0.090	0.80
LPF4027T-220M	22			0.11	0.70
LPF4027T-330M	33			0.19	0.60
LPF4027T-470M	47			0.23	0.50
LPF4027T-680M	68			0.29	0.40
LPF4027T-101M	100			0.48	0.30
LPF4027T-151M	150			0.59	0.26
LPF4027T-221M	220			0.77	0.22
LPF4027T-331M	330			1.4	0.20
LPF4027T-471M	470			1.8	0.19
LPF4027T-681M	680			2.2	0.18
LPF4027T-102M	1000			3.4	0.15
LPF4027T-152M	1500			4.2	0.12
LPF4027T-222M	2200			8.5	0.10
LPF4027T-332M	3300			11.0	0.08
LPF4027T-472M	4700			13.9	0.06

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
  Temperature rise 30℃ at rated current

■ OPERATING TEMPERATURE RANGE

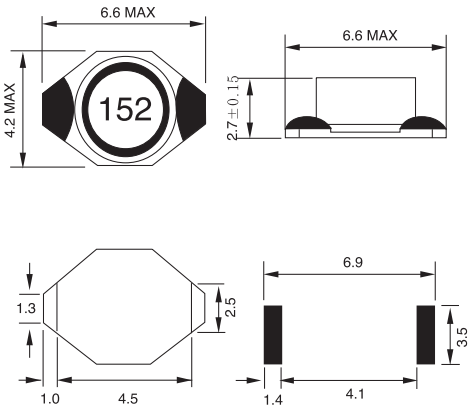
-20 ~ +85℃ (Including self-generated heat)

LPF4027-B SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED SOLDER LAND PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current(A)
LPF4027T-102M-B	1.0	±20	100	9	100
LPF4027T-152M-B	1.5			11	80
LPF4027T-222M-B	2.2			19	50
LPF4027T-332M-B	3.3			24	40
LPF4027T-472M-B	4.7			30	30

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current:
  Agilent 4284A + Agilent 42841A
  Temperature rise 30℃ at rated current

■ OPERATING TEMPERATURE RANGE

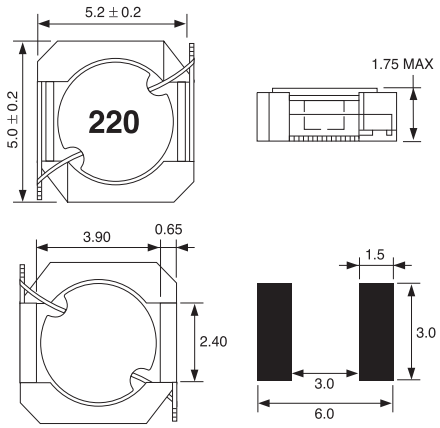
-20 ~ +85℃ (Including self-generated heat)

LPF5017 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (mΩ)Max ( )is typical value.	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF5017T-1R0M	1.0	±20	100	40(29)	3.80	2.71
LPF5017T-2R2M	2.2			45(33)	2.20	2.09
LPF5017T-3R0M	3.0			57(47)	2.10	1.94
LPF5017T-4R7M	4.7			80(69)	1.70	1.67
LPF5017T-6R8M	6.8			106(93)	1.20	1.56
LPF5017T-100M	10			150(125)	1.00	1.13
LPF5017T-150M	15			220(192)	0.85	1.06
LPF5017T-220M	22			300(264)	0.80	0.81
LPF5017T-330M	33			455(425)	0.65	0.69
LPF5017T-470M	47			645(613)	0.57	0.57

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 30% at rated current
- IDC2(The temperature rise): △T = 30℃ at rated current

■ OPERATING TEMPERATURE RANGE

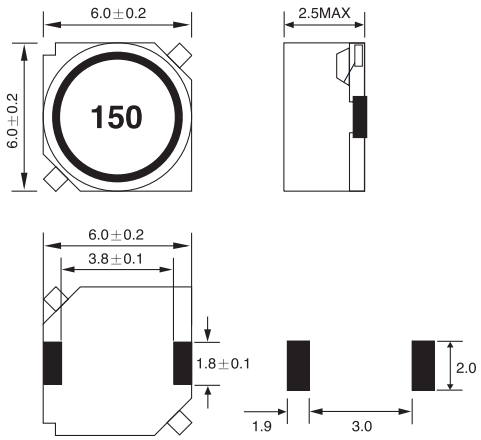
-20 ~ +85℃ (Including self-temp. rise)

LPF6025 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)±20%	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF6025T-1R5M	1.5	±20	100	0.0150	2.70	3.70
LPF6025T-2R2M	2.2			0.0155	2.20	3.40
LPF6025T-3R3M	3.3			0.0276	1.60	2.80
LPF6025T-4R7M	4.7			0.0306	1.50	2.60
LPF6025T-6R8M	6.8			0.0442	1.30	2.40
LPF6025T-100M	10			0.0573	1.00	2.10
LPF6025T-150M	15			0.0850	0.88	1.60
LPF6025T-220M	22			0.1220	0.73	1.40
LPF6025T-330M	33			0.1800	0.59	1.20
LPF6025T-470M	47			0.2400	0.48	1.00
LPF6025T-680M	68			0.3700	0.42	0.81
LPF6025T-101M	100			0.5000	0.33	0.66

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 30% at rated current
- IDC2(The temperature rise): △T = 25℃ at rated current

■ OPERATING TEMPERATURE RANGE

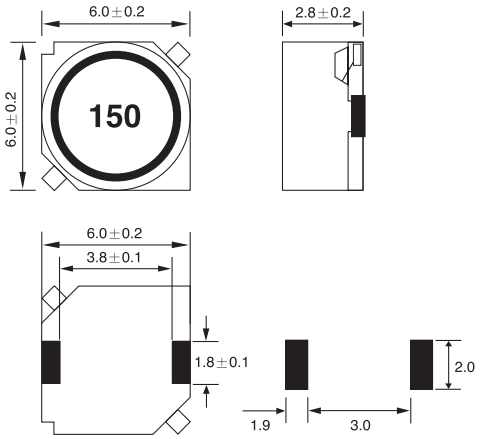
-20 ~ +85℃ (Including self-generated heat)

LPF6028 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)±20%	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF6028T-1R5M	1.5	±20	100	0.0145	3.00	3.70
LPF6028T-4R7M	4.7			0.0284	1.60	3.00
LPF6028T-6R8M	6.8			0.0354	1.50	2.90
LPF6028T-100M	10			0.0532	1.30	2.80
LPF6028T-150M	15			0.0745	1.00	2.30
LPF6028T-220M	22			0.1040	0.77	1.60
LPF6028T-330M	33			0.1480	0.69	1.30
LPF6028T-470M	47			0.2100	0.59	1.10
LPF6028T-680M	68			0.2900	0.50	0.80
LPF6028T-101M	100			0.4300	0.42	0.64
LPF6028T-151M	150			0.6500	0.34	0.60
LPF6028T-181M	180			0.8700	0.31	0.42
LPF6028T-221M	220			0.9800	0.26	0.40

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ -30% reduction from nominal L value
- IDC2(The temperature rise): △T = 25℃ at rated current

■ OPERATING TEMPERATURE RANGE

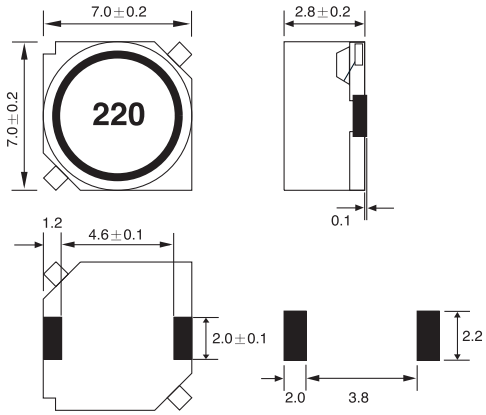
-20 ~ +85℃ (Including self-generated heat)

LPF7028 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)±20%	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF7028T-3R3M	3.3	±20	100	0.0250	2.00	2.7
LPF7028T-4R7M	4.7			0.0290	1.50	2.4
LPF7028T-6R8M	6.8			0.0370	1.30	2.1
LPF7028T-100M	10			0.0615	1.10	2.0
LPF7028T-150M	15			0.1000	0.88	1.6
LPF7028T-220M	22			0.1330	0.75	1.2
LPF7028T-330M	33			0.1850	0.65	1.1
LPF7028T-470M	47			0.2750	0.54	0.9
LPF7028T-680M	68			0.3950	0.45	0.7
LPF7028T-101M	100			0.5500	0.40	0.6

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 10% at rated current
- IDC2(The temperature rise): △T = 20℃ at rated current

■ OPERATING TEMPERATURE RANGE

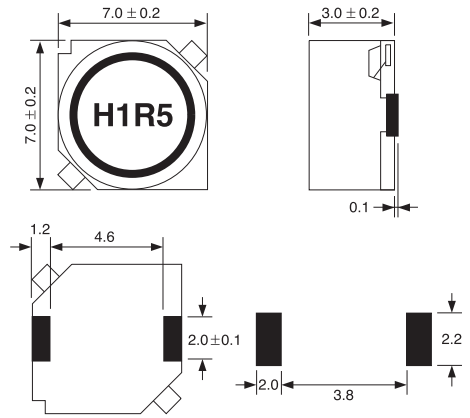
-20 ~ +85℃ (Including self-generated heat)

LPF7030 SERIES

SMD Shielded type — Low RDC, High Current

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (mΩ)Max	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF7030T-1R0N	1.0	±30	100	8.40	8.3	5.3
LPF7030T-1R5N	1.5			12.0	6.5	4.9
LPF7030T-2R2M	2.2	±20		14.2	5.7	4.4
LPF7030T-3R3M	3.3			19.8	4.4	4.0
LPF7030T-4R7M	4.7			31.0	3.5	3.3
LPF7030T-6R8M	6.8			45.0	3.0	2.8
LPF7030T-100M	10			60.0	2.5	2.3

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 30% at rated current
- IDC2(The temperature rise): △T = 35℃ at rated current

■ OPERATING TEMPERATURE RANGE

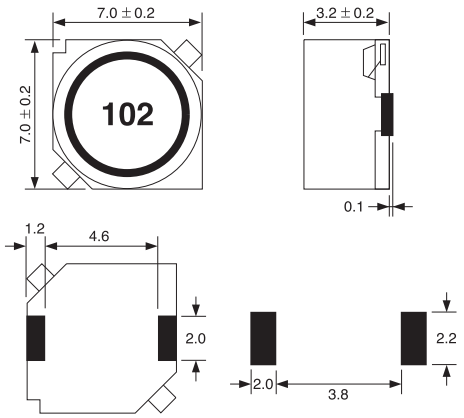
-40 ~ +105℃ (Including self-generated heat)

LPF7032 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)±20%	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF7032T-3R3M	3.3	± 20	100	0.016	2.10	2.90
LPF7032T-4R7M	4.7			0.021	1.80	2.70
LPF7032T-6R8M	6.8			0.028	1.60	2.40
LPF7032T-100M	10			0.045	1.40	2.10
LPF7032T-150M	15			0.066	1.10	1.62
LPF7032T-220M	22			0.100	0.96	1.45
LPF7032T-330M	33			0.137	0.78	1.17
LPF7032T-470M	47			0.194	0.67	0.96
LPF7032T-680M	68			0.255	0.59	0.88
LPF7032T-101M	100			0.380	0.45	0.71
LPF7032T-151M	150			0.601	0.37	0.58
LPF7032T-221M	220			0.906	0.29	0.48
LPF7032T-331M	330			1.214	0.22	0.40
LPF7032T-471M	470			1.762	0.20	0.34
LPF7032T-681M	680			2.825	0.16	0.24
LPF7032T-102M	1000			4.292	0.13	0.19

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 10% at rated current
- IDC2(The temperature rise): △T = 20℃ at rated current

■ OPERATING TEMPERATURE RANGE

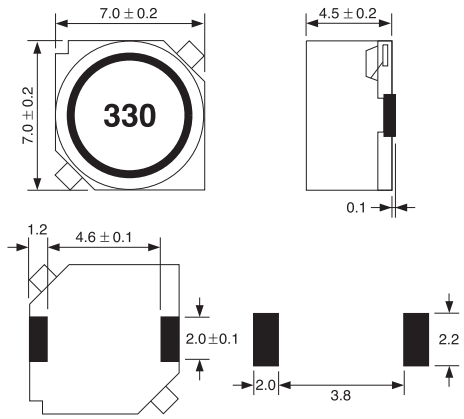
-20 ~ +85℃ (Including self-generated heat)

LPF7045 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)±20%	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF7045T-1R2M	1.2	± 20	100	0.0105	5.00	4.20
LPF7045T-2R2M	2.2			0.0190	3.00	3.40
LPF7045T-3R3M	3.3			0.0220	2.50	3.20
LPF7045T-3R9M	3.9			0.0250	2.40	3.00
LPF7045T-4R7M	4.7			0.0280	2.30	2.80
LPF7045T-6R8M	6.8			0.0390	1.90	2.04
LPF7045T-100M	10			0.0400	1.80	1.81
LPF7045T-150M	15			0.0560	1.50	1.50
LPF7045T-220M	22			0.0700	1.30	1.30
LPF7045T-330M	33			0.1100	1.10	1.11
LPF7045T-470M	47			0.1700	0.90	0.93
LPF7045T-680M	68			0.2800	0.75	0.76
LPF7045T-101M	100			0.3500	0.60	0.61
LPF7045T-151M	150			0.4800	0.50	0.54
LPF7045T-221M	220			0.7500	0.40	0.43
LPF7045T-331M	330			1.1000	0.35	0.37
LPF7045T-681M	680			2.1000	0.23	0.23

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 10% at rated current
- IDC2(The temperature rise): △T = 20℃ at rated current

■ OPERATING TEMPERATURE RANGE

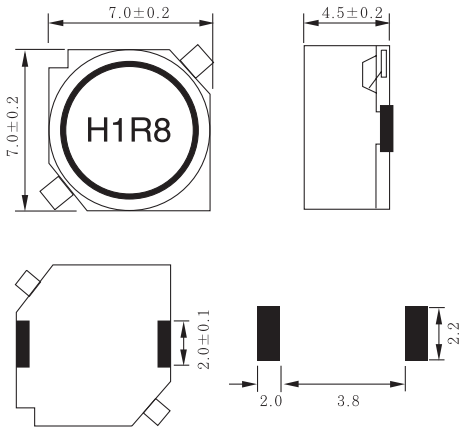
-20 ~ +85℃ (Including self-generated heat)

LPF7045-C SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED SOLDER LAND PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (mΩ)Max	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF7045T-1R0N-C	1.0	±30	100	10.5	11.3	6.1
LPF7045T-1R5N-C	1.5			12.6	9.4	5.5
LPF7045T-1R8N-C	1.8			14.8	7.4	5.0
LPF7045T-3R0M-C	3.0	±20		25.5	5.7	4.3
LPF7045T-4R7M-C	4.7			33.0	4.4	3.5
LPF7045T-6R8M-C	6.8			43.5	3.8	3.1
LPF7045T-8R2M-C	8.2			53.5	3.4	2.9
LPF7045T-100M-C	10			59.5	3.2	2.5

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 30% at rated current
- IDC2(The temperature rise): △T = 40℃ at rated current

■ OPERATING TEMPERATURE RANGE

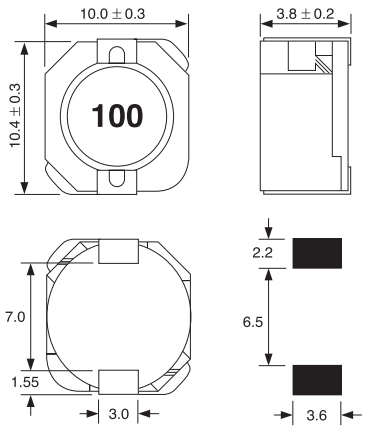
-20 ~ +85℃ (Including self-generated heat)

LPF1040 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF1040T-1R8N	1.8	±30	100	0.010	8.50	6.50
LPF1040T-3R7N	3.7			0.013	7.00	5.50
LPF1040T-4R7N	4.7			0.016	5.80	5.20
LPF1040T-6R8N	6.8			0.025	5.50	5.00
LPF1040T-8R2M	8.2	±20		0.027	4.80	4.80
LPF1040T-100M	10			0.035	4.40	3.80
LPF1040T-150M	15			0.050	3.60	3.10
LPF1040T-220M	22			0.073	2.90	2.50
LPF1040T-330M	33			0.093	2.40	2.20
LPF1040T-470M	47			0.150	2.10	1.90
LPF1040T-680M	68			0.213	1.50	1.42
LPF1040T-101M	100			0.304	1.35	1.25
LPF1040T-221M	220			0.756	0.92	0.70

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 30% at rated current
- IDC2(The temperature rise): △T = 30℃ at rated current

■ OPERATING TEMPERATURE RANGE

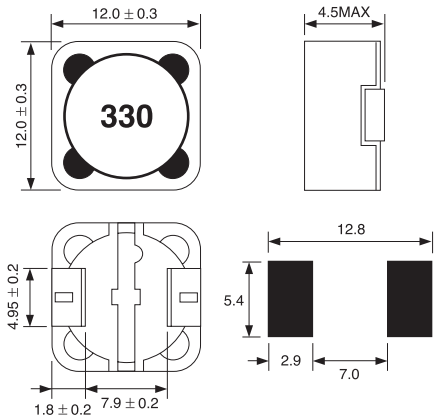
-40 ~ +105℃ (Including self-generated heat)

LPF1245 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	RDC (Ω) Max.	Rated Current(A)	
			IDC1 MAX.	IDC2 TYP.
LPF1245T-1R5M	± 20	0.0130	11.50	8.50
LPF1245T-2R2M		0.0160	9.50	8.07
LPF1245T-3R0M		0.0180	8.00	6.95
LPF1245T-4R7M		0.0250	6.40	5.70
LPF1245T-6R0M		0.0290	6.20	5.13
LPF1245T-7R2M		0.0340	5.10	4.60
LPF1245T-100M		0.0400	4.00	4.56
LPF1245T-150M		0.0560	3.40	3.69
LPF1245T-220M		0.0750	2.90	2.56
LPF1245T-330M		0.0930	2.40	2.46
LPF1245T-470M		0.1380	1.90	1.89
LPF1245T-680M		0.1770	1.50	1.84
LPF1245T-101M		0.2450	1.20	1.56

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 20% at rated current
- IDC2(The temperature rise): △T = 40℃ at rated current

■ OPERATING TEMPERATURE RANGE

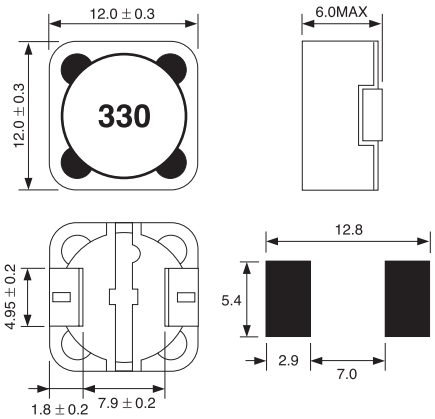
-20 ~ +85℃ (Including self-generated heat)

LPF1260 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω) Max	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPF1260T-100M	10	± 20	100	0.025	5.0	7.55
LPF1260T-150M	15			0.030	4.0	6.54
LPF1260T-220M	22			0.040	3.5	5.38
LPF1260T-330M	33			0.057	3.0	4.75
LPF1260T-470M	47			0.075	2.5	3.13
LPF1260T-680M	68			0.120	2.0	2.95
LPF1260T-850M	85			0.130	1.7	2.83
LPF1260T-101M	100			0.150	1.5	2.76
LPF1260T-151M	150			0.220	1.2	2.15
LPF1260T-221M	220			0.330	1.0	2.07
LPF1260T-331M	330			0.470	0.8	1.36
LPF1260T-471M	470			0.700	0.7	1.29
LPF1260T-681M	680			1.150	0.6	0.89
LPF1260T-102M	1000			1.400	0.5	0.84

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 20% at rated current
- IDC2(The temperature rise): △T = 40℃ at rated current

■ OPERATING TEMPERATURE RANGE

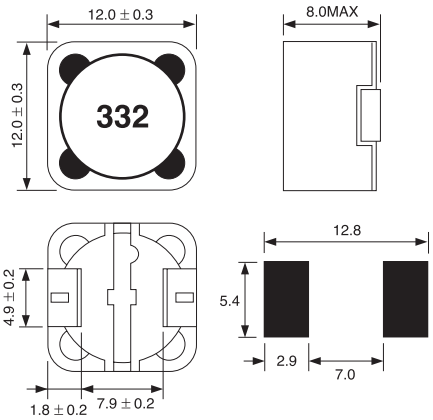
-20 ~ +85℃ (Including self-generated heat)

LPF1280 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (Ω)Max	Rated Current[A]	
					IDC1 (Max.)	IDC2 (Ref)
LPF1280T-1R0M	1.0	± 20	100	0.007	12.00	13.03
LPF1280T-2R4M	2.4			0.013	10.00	10.38
LPF1280T-3R5M	3.5			0.014	9.30	9.69
LPF1280T-4R7M	4.7			0.015	9.10	8.69
LPF1280T-5R8M	5.8			0.019	8.60	7.56
LPF1280T-8R2M	8.2			0.020	8.00	7.02
LPF1280T-100M	10			0.022	6.70	6.87
LPF1280T-150M	15			0.026	5.65	6.50
LPF1280T-220M	22			0.036	4.70	5.79
LPF1280T-330M	33			0.054	3.90	5.31
LPF1280T-470M	47			0.087	3.25	3.50
LPF1280T-530M	53			0.090	2.90	3.30
LPF1280T-680M	68			0.110	2.60	3.20
LPF1280T-101M	100			0.140	2.10	2.62
LPF1280T-151M	150			0.200	1.80	2.30
LPF1280T-221M	220			0.320	1.45	1.97
LPF1280T-331M	330			0.450	1.20	1.65
LPF1280T-471M	470			0.690	1.00	1.40
LPF1280T-681M	680			0.900	0.90	1.31
LPF1280T-102M	1000			1.450	0.70	0.77
LPF1280T-152M	1500			1.950	0.65	0.65
LPF1280T-222M	2200			2.690	0.55	0.57

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L ≤ 20% at rated current
- IDC2(The temperature rise): △T = 40℃ at rated current

■ OPERATING TEMPERATURE RANGE

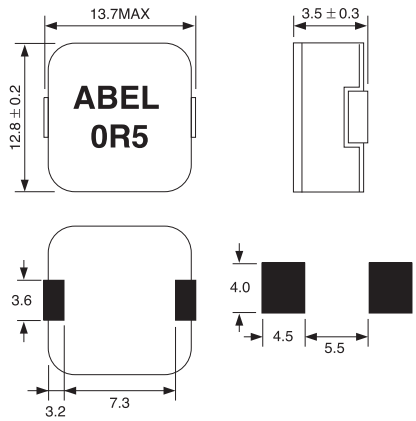
-20 ~ +85℃ (Including self-generated heat)

LPM1235 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (mΩ) Max	Rated Current(A)	
					IDC1 (Max.)	IDC2 (Ref.)
LPM1235T-0R5M	0.5	± 20	100	2.0	32	32
LPM1235T-0R8M	0.8			3.0	34	26
LPM1235T-1R0M	1.0			3.0	26	26

■ TEST EQUIPMENTS

- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L≤20% at rated current
- IDC2(The temperature rise): △T=40℃ at rated current

■ OPERATING TEMPERATURE RANGE

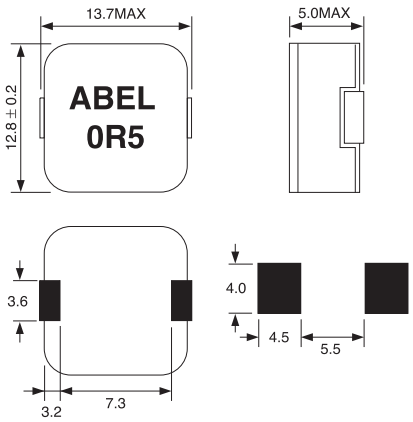
-20 ~ +105℃ (Including self-generated heat)

LPM1250 SERIES

SMD Shielded type

■ SHAPES & DIMENSIONS
RECOMMENDED PCB PATTERN

(Dimensions in mm)



■ ELECTRICAL CHARACTERISTICS

Ordering Code	Inductance (μH)	Inductance TOL.(%)	Test Freq. (KHz)	DC Resistance (mΩ) Max	Rated Current(A)	
					IDC1 (A Max.)	IDC2 (A Ref.)
LPM1250T-0R5M	0.5	±20	100	1.5	42	36
LPM1250T-1R0N	1.0	±30		2.2	33	29
LPM1250T-1R5M	1.5	±20		3.0	25	25
LPM1250T-2R0M	2.0			4.5	22	18

■ TEST EQUIPMENTS

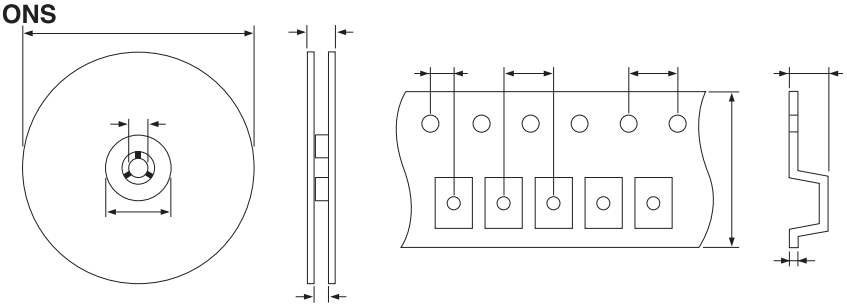
- Inductance: Agilent 4284A LCR Meter (100KHz 0.5V)
- Rdc: HIOKI 3540 mΩ HiTESTER
- Bias Current: Agilent 4284A + Agilent 42841A
- IDC1(The saturation current): △L≦ 20% at rated current
- IDC2(The temperature rise): △T= 40℃ at rated current

■ OPERATING TEMPERATURE RANGE

-20 ~ +105℃ (Including self-generated heat)

PACKING SPECIFICATION

■ TAPE & SPECIEICATIONS



Unit: mm

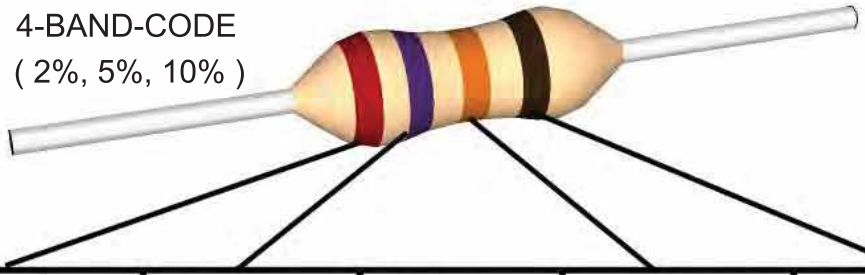
Series	Reel dimensions					Tape dimensions						Per Reel(Q'ty)
	A	B	C	D	E	W	P	P0	P1	H	t	
LPN4532	330	100	13	17	13	12	8	4	2	3.5	0.3	2,000
LPN5845	330	100	13	21	17	16	12	4	2	5.0	0.4	1,000
LPN1040	330	100	13	29	25	24	12	4	2	4.6	0.4	1,000
LPF2010	180	60	13	15	13	12	4	4	2	1.15	0.3	3,500
LPF2015	180	60	13	15	13	12	4	4	2	1.15	0.3	3,000
LPF2015-C	180	60	13	15	13	12	4	4	2	1.15	0.3	3,000
LPF3010	330	100	13	17	13	12	8	4	2	1.3	0.3	5,000
LPF3015(-C)	330	100	13	17	13	12	8	4	2	1.7	0.3	4,000
LPF4017	330	100	13	17	13	12	8	4	2	2.0	0.3	4,000
LPF4027(-B)	330	100	13	17	13	12	8	4	2	2.8	0.3	2,500
LPF5017	330	100	13	17	13	16	8	4	2	1.9	0.3	4,000
LPF6025(6028)	330	100	13	17	13	12	8	4	2	3.2	0.3	2,500
LPF7028(30, 32)	330	100	13	21	17	16	12	4	2	3.55	0.3	1,500
LPF7045(-C)	330	100	13	21	17	16	12	4	2	4.8	0.3	1,000
LPF1040	330	100	13	29	25	24	16	4	2	4.3	0.4	1,000
LPF1245	330	100	13	29	25	24	16	4	2	4.6	0.4	900
LPF1260	330	100	13	29	25	24	16	4	2	6.2	0.5	500
LPF1280	330	100	13	29	25	24	16	4	2	7.9	0.4	500
LPM1235	330	100	13	29	25	24	16	4	2	3.9	0.3	1,000
LPM1250	330	100	13	29	25	24	16	4	2	5.7	0.4	700

■ INNER & OUTER SPECIEICATIONS

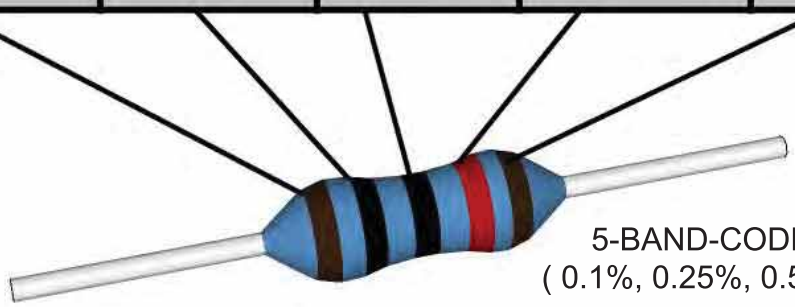
Unit: mm

Series	INNER BOX				OUTER BOX			
	L	W	H	Per Box(Q'ty)	L	W	H	Per Box(Q'ty)
LPN4532	335	345	65	6,000	355	365	215	18,000
LPN5845	335	345	65	2,000	355	365	215	6,000
LPN1040	335	345	65	2,000	355	365	215	6,000
LPN2010					270	200	200	45,000
LPN2015					270	200	200	52,500
LPN2015-C					270	200	200	52,500
LPF3010	335	345	65	15,000	355	365	215	45,000
LPF3015(-C)	335	345	65	12.,000	355	365	215	36,000
LPF4017	335	345	65	12.,000	355	365	215	36,000
LPF4027(-B)	335	345	65	7,500	355	365	215	22,500
LPF5017	335	345	65	8,000	355	365	215	24,000
LPF6025(6028)	335	345	65	7,500	355	365	215	22,500
LPF7028(30, 32)	335	345	65	3,000	355	365	215	9,000
LPF7045(-C)	335	345	65	2,000	355	365	215	6,000
LPF1040	335	345	65	2,000	355	365	215	6,000
LPF1245	335	345	65	1,800	355	365	215	5,400
LPF1260	334	248	65	1,000	355	365	215	3,000
LPF1280	334	248	65	1,000	355	365	215	3,000
LPM1235	334	248	65	2,000	355	365	215	6,000
LPM1250	334	248	65	1,400	355	365	215	4,200
LPL0411	334	248	50	2,000	355	255	225	8,000
LPL0714	334	248	50	1,250	355	255	225	5,000
LPL0813	334	248	50	1,500	355	255	225	6,000
LPL0919	334	248	50	750	355	255	225	3,000

4-BAND-CODE
(2%, 5%, 10%)



Color	1st Band	2nd Band	3rd Band	Multiplier	Tolerance
Black	0	0	0	1Ω	
Brown	1	1	1	10Ω	± 1% (F)
Red	2	2	2	100Ω	± 2% (G)
Orange	3	3	3	1KΩ	
Yellow	4	4	4	10KΩ	
Green	5	5	5	100KΩ	± 0.5% (D)
Blue	6	6	6	1MΩ	± 0.25% (C)
Violet	7	7	7	10MΩ	± 0.1% (B)
Grey	8	8	8	100MΩ	
White	9	9	9		
Gold					± 5% (J)
Silver					± 10% (K)



5-BAND-CODE
(0.1%, 0.25%, 0.5%, 1%)