Audio Wire Wound Resistors - JWA

FEATURES

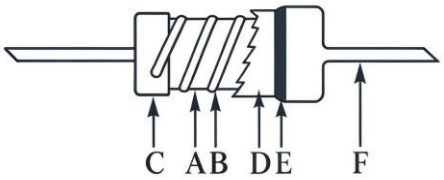
- Super heat dissipation
- Instat overload capability
- No annual shift on resistance value
- Tolerance available：±5%, ±3%, ±1%



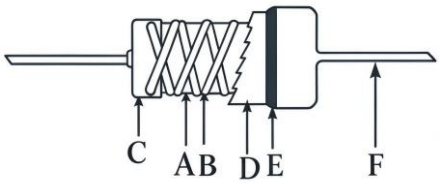
CONSTRUCTION

The construction of resistor shall be as follows：

Single-wound Low-Inductance
(X Type)



Double-wound Non-Inductive
(Y Type)

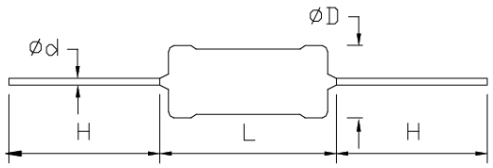


No.	Item	Material
A	Ceramic core	High alumina ceramic is used.
B	Resistance element	The resistor element consists of heat resistant wire of nickel alloy.
C	Terminal	Tinned copper cap. (±5%, ±3%) Tinned iron cap. (±1%)
D	Coating	Silicone resin. Accord with UL-94V-0 nonflammable specification.
E	Color Ring	Color Ring.
F	Leads	Tinned annealed copper wire.

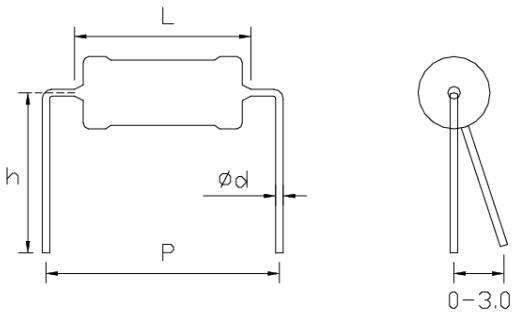
EXTERNAL DIMENSIONS

P type (Straight) & M-Form series (Horizontal Forming)

P Type



M Type



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Unit：mm

Power	Dimensions					
	L	D	d	H	P	h
1/2W	9.0±1.0	3.2±0.5	0.5±0.05	28.0±3.0	12.5±1.0	6.0±1.0
1W	12.0±1.0	4.5±0.5	0.65±0.05	28.5±3.0	15.0±1.0	8.0±1.0
2W	15.5±1.0	5.0±0.5	0.7±0.05	31.0±3.0	20.0±1.0	8.0±1.0
3W	17.5±1.0	6.5±0.5	0.75±0.05	30.5±3.0	25.0±1.0	8.0±1.0
5W	24.5±1.0	7.0±1.0	0.75±0.05	25.0±4.0	---	---
7W	32.0±1.5	7.0±1.0	0.8±0.05	25.0±3.0	---	---
8W	32.0±1.5	8.0±1.0	0.8±0.05	25.0±3.0	---	---
10W	36.0±1.5	7.0±1.0	0.8±0.05	25.0±3.0	---	---
10W	52.0±1.5	8.0±1.0	1.0±0.05	48.0±5.0	---	---
15W	40.0±1.5	7.0±1.0	0.8±0.05	25.0±3.0	---	---
20W	50.0±1.5	7.0±1.0	0.8±0.05	25.0±3.0	---	---
25W	52.0±1.5	8.0±1.0	0.8±0.05	25.0±3.0	---	---

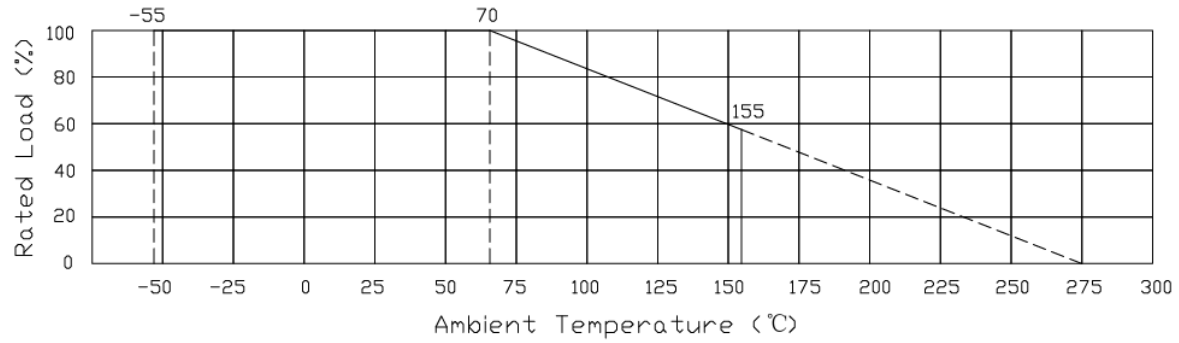
RATED POWER

Rated power is maximum power which can be continuously loaded at specified ambient temperature 70℃, however when the ambient temperature exceeds 70℃, rated power should be determined from the derating curve of Fig.1.

Table-1:

Type		Rated power	Dielectric Withstanding Voltage	Resistance Range	Operating Temperature Range
Normal Size	Small Size				
1/2W		0.5W	250V	0.1Ω～100Ω	-55℃～155℃
1W	1WS	1W	300V	0.1Ω～100Ω	
2W	2WS	2W	350V	0.1Ω～120Ω	
3W	3WS	3W	350V	0.1Ω～180Ω	
5W	5WS	5W	350V	0.1Ω～300Ω	
7W		7W	350V	0.1Ω～1.5KΩ	
8W		8W	350V	0.1Ω～2.2KΩ	
10W		10W	350V	0.1Ω～3.3KΩ	
15W		15W	350V	0.1Ω～3.3KΩ	
20W/25W		20W/25W	350V	0.1Ω～3.3KΩ	

FIGURE 1 POWER DERATING CURVE



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CHARACTERISTICS

Item	Performance	Test Methods (Conform to JIS C 5202)
Temperature coefficient	Within±6000PPM/℃	$\frac{R_1 - R_0}{R_0(T_1 - T_0)} \times 10^6 (PPM/℃)$ R_0: Resistance value at room temp.(T_0). R_1: Resistance value at room temp. plus 100℃ (T_1) .
Short time overload	within±(2%+0.05Ω) No evidence of mechanical damage	10 times of rated wattage for 5 seconds
Insulation resistance	1,000MΩ or more	V-block method Resistor shall be tested at DC500V for 60 seconds
Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation breakdown.	Constant pressure, V-block method Resistor shall be tested at AC potential respectively for 60 seconds.(See table-1)
Pulse overload	within±(2%+0.05Ω)	Rated voltage X 4 times, 10000cyc.(1s ON,25s OFF)
Terminal strength	No evidence of mechanical damage	Tensile strength: 25N(2.5kgf), for 10 seconds. Torsional strength: Rotated through 360°,5 rotations
Resistance to soldering heat	within±(2%+0.05Ω) No evidence of mechanical damage	After test leave for 3h
Solderability	Covered with new solder by 95% at least	Test temperature of solder: 235±5℃ Dipping time in solder: 5±0.5s
Resistance to solvent	No deterioration of protective coating and markings	Specimens shall be immersed in a bath of isopropyl alcohol completely for 3 minutes with ultrasonic
Temperature cycle	within±(2%+0.05Ω) No evidence of mechanical damage	Low side：-55℃/30min, Room temp.: 10 to 15min High side：85℃/30min, Room temp.: 10 to 15min 5cycles
Load life in humidity	within±(5%+0.05Ω)	40±2℃, 90 to 95%RH, 1000h Rated voltage (90min ON, 30min OFF)
Load life	within±(5%+0.05Ω)	70±3℃, 1000h Rated voltage (90min ON, 30min OFF)
Incombustibility	No evidence of flame	16 times of rated wattage for 5min