# Chassis Mounted Power Wirewound Resistor

TT electronics

AL Series

- ±1% tolerance
- 5 watts to 50 watts
- 0.1 ohm to 180K ohm*
- Non-inductive winding available
- High thermal conductivity cores available
- Lead Free RoHS Compliant Construction

*Values down to .01 ohms available. Contact factory with special applications.

Top surface marked

Molded and welded construction

Screw mounts on chassis
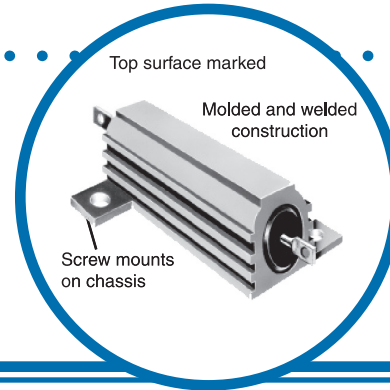
Electrical Data

IRC/SX Style**	MIL Equivalent	Power Rating @25°C (watts)		Resistance (ohms)		
		IRC/SX	MIL	Min.	Max.	Max. MIL
AL-5	RE-60G	7.5	5	0.1	16K	3.32K
AL-10	RE-65G	12.5	10	0.1	25K	5.62K
AL-25	RE-70G	25.0	20	0.1	55K	12.1K
AL-50	RE-75G	50.0	30	0.1	180K	39.2K

*All resistors have an operating temperature range of -55°C to +275°C. Derating is required for reduced chassis mounting area and for high ambient temperatures.

**To order non-inductive styles add suffix N (e.g.:ALN-5). (Divide Max. Res. Values by styles available with extended resistance and tolerance ranges; contact factory.

Power Rating:
5 to 50 watts depending upon style. 275°C maximum hotspot at 25°C ambient. Conforms to MIL-R-18546.
1% maximum ΔR in 1000 hour load life. Proper heat sinks are as follows:
4 x 5 x 2 x 0.040 aluminum chassis - AL-5 and AL-10
5 x 7 x 2 x 0.040 aluminum chassis - AL-25 and AL-50

Construction:
Windings are "controlled stress" wound on ground ceramic cores. Terminations are of welded construction. Terminals are electronically welded to the end caps for maximum strength and electrical continuity. A high temp. silicone encapsulation is used to mold the wound assembly within the anodized

Standard Temperature Coefficient of Resistance:
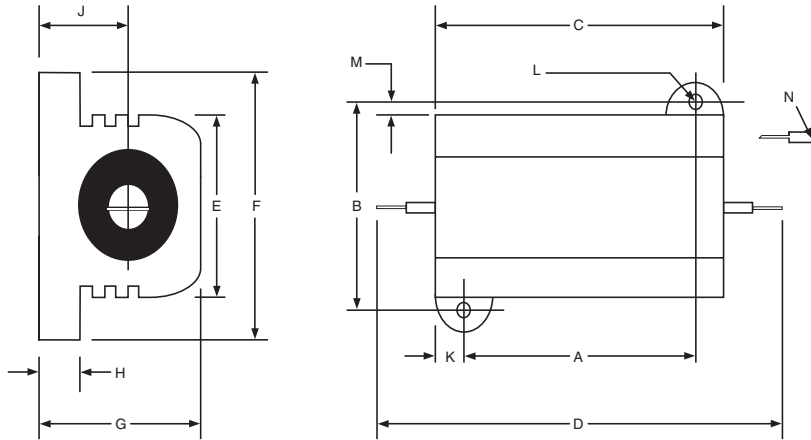<1 ohm = ±90 ppm
≥1 ohm to <10 ohms = ±50 ppm
≥10 ohm = ±20 ppm

IRC
A subsidiary of
TT electronics plc

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Physical Data

Dimensions (inches and (mm))

Style	A	B	C	D	E	F	G	H	J	K	L	M	N
Tol.	±0.005	±0.005	±0.031	±0.062	±0.015	±0.015	±0.015	±0.010	±0.010	±0.010	±0.005	±0.015	±0.005
(metric)	±0.1	±0.1	±0.8	±1.6	±0.4	±0.4	±0.4	±0.25	±0.25	±0.25	±0.1	±0.4	±0.1
AL-5	0.444	0.490	0.600	1.035	0.334	0.646	0.320	0.065	0.140	0.078	0.093	0.078	0.050
	(11.28)	(12.45)	(15.24)	(28.58)	(8.48)	(16.41)	(8.13)	(1.65)	(3.56)	(1.98)	(2.36)	(1.98)	(1.27)
AL-10	0.562	0.625	0.750	1.375	0.430	0.800	0.400	0.075	0.190	0.093	0.093	0.102	0.086
	(14.27)	(15.88)	(19.1)	(34.93)	(10.92)	(20.3)	(10.2)	(1.91)	(4.83)	(2.4)	(2.4)	(2.59)	(2.18)
AL-25	0.719	0.781	1.062	1.938	0.530	1.080	0.560	0.085	0.260	0.172	0.125	0.115	0.086
	(18.26)	(19.84)	(26.97)	(49.23)	(13.46)	(27.43)	(14.22)	(2.16)	(6.6)	(4.37)	(3.18)	(2.92)	(2.18)
AL-50	1.563	0.844	1.968	2.781	0.615	1.140	0.615	0.085	0.300	0.196	0.125	0.107	0.086
	(39.7)	(21.44)	(49.99)	(70.64)	(15.62)	(28.96)	(15.62)	(2.16)	(7.62)	(4.97)	(3.18)	(2.71)	(2.18)

Power Derating Curve

AL resistors are rated to operate with a 275°C maximum hotspot under full rated power at 25°C ambient. They must be derated for higher ambient temperature per "Wattage vs. Ambient Temperature Derating Curve."
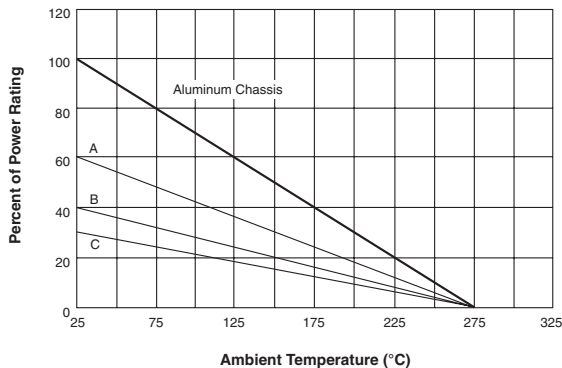
Ordering Data

Sample Part No. · AL - 10 10RD F LF

IRC Type ·
AL

Power ·
10, 25, 50

Range ·

Tolerance ·
J = ±5%; F = ±1%; D = ±0.5%; B = ±0.1%

Lead Free Construction ·