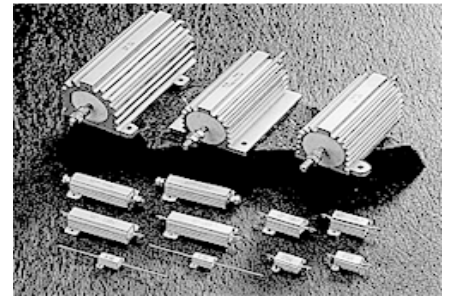


WIREWOUND RESISTOR, ALUMINUM ENCASED



PART NUMBER DESCRIPTION (for order booking)

WAR50 470 J
 Type & Wattage Res. Value Res. Tol.

(1) Type & Wattage: Inductive Type

WAR5 (5W)	WAR10 (10W)	WAR25 (25W)	WAR50 (50W)	WAR100 (100W)	WAR250 (250W)
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Non-inductive Type

WARN5 (5W)	WARN10 (10W)	WARN25 (25W)	WARN50 (50W)	WARN100(100W)	WARN250(250W)
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(2) Resistance Value: in Ohm (Ω)

Ohm	0.47	1	4.7	10	100	1000	4700	10000	100000
Code No.	R47	1	4R7	10	100	1K	4K7	10K	1M

(3) Resistance Tolerance: D= \pm 0.5% F= \pm 1% G= \pm 2% H= \pm 3% J= \pm 5% K= \pm 10%

FEATURE:

- High power rating, small size and ultra precision.
- Standard winding & non-inductive winding types.
- High stability, strong construction.

MATERIALS:

- Encapsulant: Silicone
- End caps: Stainless steel
- Core: Ceramic steatite or aluminum
- Standard Terminals: 5~50W Tinned terminals; 100~250W Threaded terminals
- Housing: Aluminum with hard anodic coating
- Element: Copper-nickel alloy, nickel-chrome alloy or manganese copper

GENERAL SPECIFICATIONS:

Wattage Range:	5 to 250 watts.
Resistance Tolerance:	0.5%, 1%, 2%, 3%, 5%, 10%
Operating Temperature Range:	-55°C to +275°C
Dielectric Strength:	1000V for WAR5, WAR10, WAR25, WAR50 2500V for WAR100, WAR250
Temperature Coefficient of Resistance Standard T.C.:	\pm 30PPM/ $^{\circ}$ C =10 Ω and up, \pm 50PPM/ $^{\circ}$ C =1 to 9.99 Ω \pm 90PPM/ $^{\circ}$ C =below 1 Ω

WIREWOUND RESISTOR, ALUMINUM ENCASED

ELECTRICAL CHARACTERISTICS

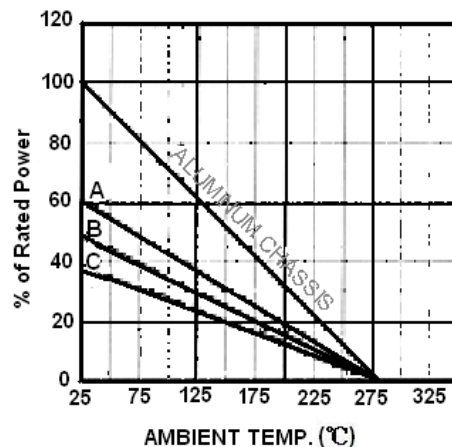
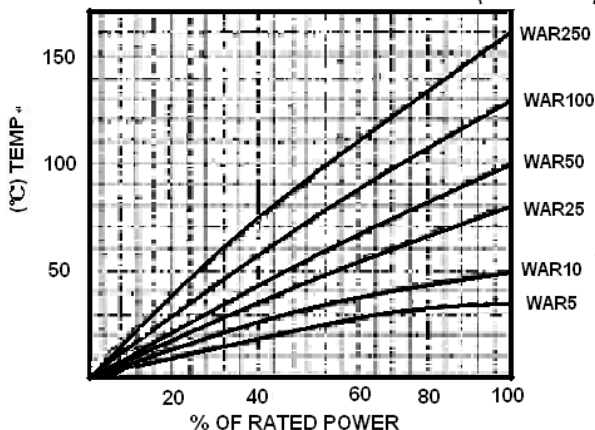
Type	MIL Style	Wattage Rating	Resistance Range (Ω)		MAX Working (V)		(g) MAX Weight	proper heat sink (aluminum chassis)
			WAR	WARN	WAR	WARN		
WAR- 5	RE60	5W	0.05 ~ 3k	0.1~1k	120	70	3	152X102X51X1t
WAR- 10	RE65	10W	0.02 ~ 6k	0.03~2.3k	245	180	7	152X102X51X1t
WAR- 25	RE70	25W	0.012~15k	0.02~5.5k	500	300	15	178X127X51X1t
WAR- 50	RE75	50W	0.01 ~40k	0.02~12k	1300	600	33	305X305X1.5t
WAR-100	RE77	100W	0.4 ~50k	0.12~25k	1900	1340	450	305X305X3t
WAR-250	RE80	250W	0.6 ~80k	0.15~40k	2500	1750	800	305X305X3t

PERFORMANCE CHARACTERISTICS

Parameters	Test Conditions	Specifications
Short Time Overload	5x wattage rating-5sec.	$\Delta R \pm (0.5\%+0.05\Omega)$ MAX
Moisture Resistance	Temp. 40°C moisture 95% DC 100V 500Hr	$\Delta R \pm (0.5\%+0.05\Omega)$ MAX
Moisture Load Life	Temp. 40°C moisture 95% 1/10 x wattage rating (1.5Hr ON - 0.5Hr OFF) - Repeat 1000Hr	$\Delta R \pm (0.5\%+0.05\Omega)$ MAX
Load Life	Load Rating (chassis is mounted) (1.5Hr ON-0.5Hr OFF) Repeat 1000Hr	$\Delta R \pm (1.5\%+0.05\Omega)$ MAX
Vibration	10c/s~50c/s~10c/s (1min) 2Hr each of paralleled and right angle	$\Delta R \pm (0.2\%+0.05\Omega)$ MAX
Heat Resistance	275°C 2Hr	$\Delta R \pm (0.5\%+0.05\Omega)$ MAX
Dielectric Strength	1000V for WAR-5, WAR-10, WAR-25 1500V for WAR-50 2500V for WAR-100, WAR-250	$\Delta R \pm (0.2\%+0.05\Omega)$ MAX
Insulation Resistance	Under the same test condition of Dielectric Strength, Load DC 500V and measure the Insulation R.	1000M Ω min
Terminal Strength	1. Pull Test (30 sec Min): 1kg for WAR-5, 2.3kg for WAR-10, 4.5kg for WAR-25, WAR-50 2. Torque Test (5~15sec): 27kg-cm for WAR-100, 36kg-cm for WAR-250	$\Delta R \pm (0.2\%+0.05\Omega)$ MAX

DERATING

SURFACE TEMPERATURE VS. POWER LOAD (on Chassis)



Derating is required to reduce chassis mounting area and for high ambient temperature curve

A=5 & 10 watt units, unmounted

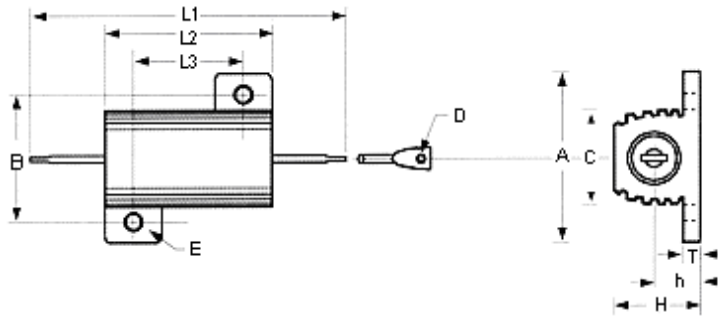
B=25 watt units, unmounted

C= 50, 100 & 250 watt units, unmounted

WIREWOUND RESISTOR, ALUMINUM ENCASED

DIMENSION OF PRECISION POWER RESISTORS (unit: mm)

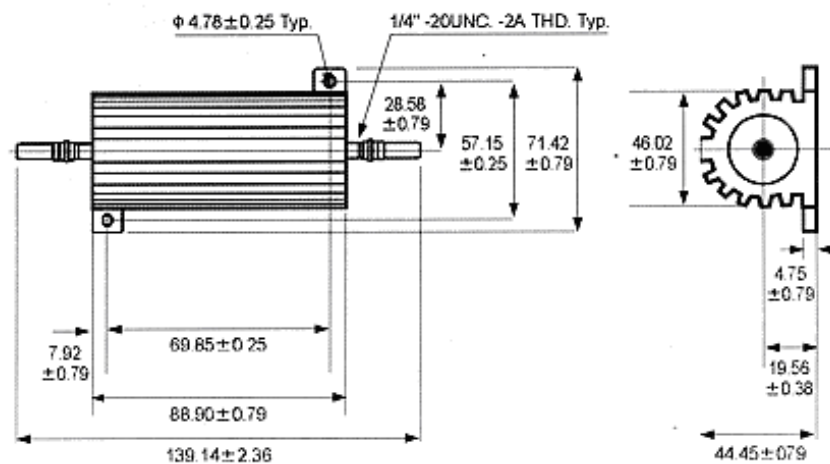
WAR-5 WARN-5
 WAR-10 WARN-10
 WAR-25 WARN-25
 WAR-50 WARN-50



Dimensions:

TYPE	L ₁	L ₂ ± 1	L ₃ ± 0.8	A ± 1	B ± 0.8	C ± 1	D ± 0.1	E ± 0.3	H ± 1	h ± 1	T ± 0.2
WAR-5 WARN-5	28.6	15.3	11.3	16.5	12.4	8.5	1.3	2.4	8.2	4	1.6
WAR-10 WARN-10	42	20	14.3	23.1	15.9	10.5	2.2	3.1	10.5	5	2
WAR-25 WARN-25	44	28	18.3	27.2	19.8	13.5	2.2	4.1	14.	6.5	2.2
WAR-50 WARN-50	70.2	50	39.7	29.2	21.5	16	2.2	3.8	16.2	7	2.5

WAR-100
 WARN-100



WAR-250
 WARN-250

