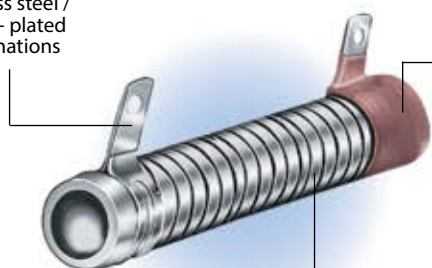




Stainless steel /
Nickel - plated
Terminations



Flame Retardant
Silicone Coating

Alloy Resistance Wire Wound
On Ceramic Substrate

WIRE WOUND RESISTORS SILICONE COATED TYPE

HTR
SERIES
HI POWER

Silicone Coated Wire Wound Resistors Industrial / Professional Applications

- Type 'A'- compatible for using with Amp type connectors
- Highly stable
- 10 W to 500 W
- R22 to 100K
- Useful for inexpensively dissipating large amounts of power in DC or low frequency AC circuits
- Flame retardant coating compatible with UL standards
- Non-inductive style with Aryton Perry winding
- Pulse / Surge type available

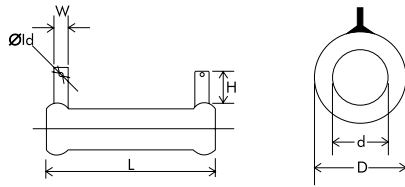




WIRE WOUND
RESISTORS
SILICONE
COATED
TYPE

HTR

PHYSICAL CONFIGURATION



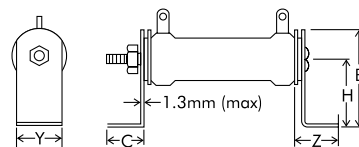
HTR TYPE	POWER RATING at 70°C	DIMENSIONS (mm)						MOUNTING HARDWARE AVAILABLE	RESISTANCE RANGE		INDICATIVE WEIGHT PER PC (gms)
		L ±3	* D ±2	d ±1	W ±0.35	Ø ld ±0.3	H [+2/-0]		min	max	
R-10A	10W	27.0	15.0	7.7	4.75	1.4	6.35	101/301	R22	1K0	9.0
R-10B	10W	27.0	15.0	7.7	5.0	3.0	8.5	101/301	R22	1K0	9.2
R-15A	15W	40.0	15.0	7.7	4.75	1.4	6.35	101/301	R27	3K0	12.5
R-15B	15W	40.0	15.0	7.7	5.0	3.0	8.5	101/301	R27	3K0	12.8
R-20A	20W	60.0	15.0	7.7	4.75	1.4	6.35	101/301	R50	5K0	20.0
R-20B	20W	60.0	15.0	7.7	5.0	3.0	8.5	101/301	R50	5K0	20.5
R-25A	25W	75.0	15.0	7.7	4.75	1.4	6.35	101/301	R50	10K	21.0
R-25B	25W	75.0	15.0	7.7	5.0	3.0	8.5	101/301	R50	10K	21.5
R-40A	40W	75.0	26.0	14.3	4.75	1.4	6.35	102/303	1R0	15K	60.0
R-40B	40W	75.0	26.0	14.3	5.0	3.0	8.5	102/303	1R0	15K	61.0
R-50A	50W	100.0	26.0	14.3	4.75	1.4	6.35	102/303	1R6	20K	75.0
R-50B	50W	100.0	26.0	14.3	5.0	3.0	8.5	102/303	1R6	20K	76.0
R-60A	60W	115.0	26.0	14.3	6.35	1.65	8.5	102/303	2R2	25K	90.0
R-60B	60W	115.0	26.0	14.3	8.0	4.3	11.0	102/303	2R2	25K	92.0
R-80A	80W	130.0	26.0	14.3	6.35	1.65	8.5	102/303	2R2	35K	96.0
R-80B	80W	130.0	26.0	14.3	8.0	4.3	11.0	102/303	2R2	35K	97.0
R-100A	100W	150.0	33.2	19.1	6.35	1.65	8.5	103/303	3R0	40K	180.0
R-100B	100W	150.0	33.2	19.1	8.0	4.3	11.0	103/303	3R0	40K	182.0
R-125A	125W	165.0	33.2	19.1	6.35	1.65	8.5	103/303	3R0	47K	183.0
R-125B	125W	165.0	33.2	19.1	8.0	4.3	11.0	103/303	3R0	47K	185.0
R-150A	150W	200.0	33.2	19.1	6.35	1.65	8.5	103/303	3R3	56K	205.0
R-150B	150W	200.0	33.2	19.1	8.0	4.3	11.0	103/303	3R3	56K	207.0
R-200A	200W	250.0	33.2	19.1	6.35	1.65	8.5	103/303	4R7	68K	293.0
R-200B	200W	250.0	33.2	19.1	8.0	4.3	11.0	103/303	4R7	68K	296.0
R-300A	300W	250.0	45.0	24.0	6.35	1.65	8.5	104/304	5R6	75K	525.0
R-300B	300W	250.0	45.0	24.0	8.0	4.3	11.0	104/304	5R6	75K	528.0
R-400A	400W	330.0	45.0	24.0	6.35	1.65	8.5	104/304	10R	100K	760.0
R-400B	400W	330.0	45.0	24.0	8.0	4.3	11.0	104/304	10R	100K	765.0
R-500A	500W	300.0	55.0	27.0	6.35	1.65	8.5	104/304	10R	100K	1150.0
R-500B	500W	300.0	55.0	27.0	8.0	4.3	11.0	104/304	10R	100K	1155.0

* D-Dimensions given are indicative and could exceed tolerance given depending on resistance value being wound.

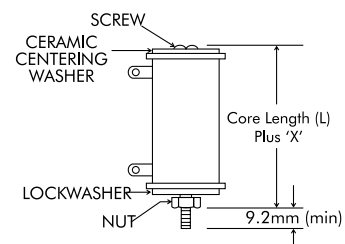
* Resistor types suffixed with 'A' are compatible with Amp F 187 connectors or Amp 250 connectors.

MOUNTING SPECIFICATIONS

HORIZONTAL THRU-BOLT



VERTICAL THRU-BOLT



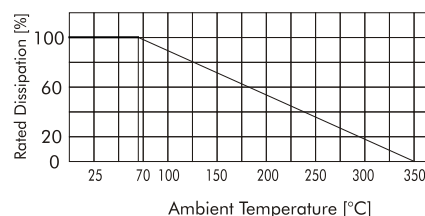


**WIRE WOUND
RESISTORS
SILICONE
COATED
TYPE
HIR**

BRACKET TYPE	Y ±1.0mm	Z ±2mm	H ±2mm	MOUNTING SLOT ±0.5mm	C ±2mm	B ±2mm
101	12.0	22.0	25.0	5.5 X 8.5	19.0	35.0
102	20.0	25.0	33.0	5.5 X 11.0	20.0	46.0
103	32.0	30.0	37.0	7.0 X 11.0	22.0	54.0
104	48.0	32.0	57.0	7.0 X 11.0	23.0	82.0

BRACKET TYPE	X (APPROXIMATE) (mm)
301	12.0
303	15.0
304	16.0

DERATING CURVE



ELECTRICAL AND ENVIRONMENTAL CHARACTERISTICS

PARAMETER/PERFORMANCE TEST/TEST METHOD	PERFORMANCE REQUIREMENTS
Power Rating (Rated Ambient Temperature)	Full power dissipation at 70°C and linearly derated to zero at 350°C (Refer derating curve above)
Resistance Tolerances Available	±10% [K]; ±5% [J]; ±3% [H]; ±2%[G]; ±1% [F]
Temperature Range	-55°C to +350°C with suitable derating as per derating curve above
Voltage Rating / Limiting Voltage / Max. Working Voltage	$V = \sqrt{P \times R}$
Maximum Overload Voltage	Varies depending on resistance value, duration of overload and type of pulse waveform (Contact Factory for details)
Voltage Proof / Dielectric Withstanding Voltage (Based on limiting voltage x 2 or 500V whichever is applicable for 60 secs)	$\Delta R \pm (1\% + R05)$
Short Time Overload (10 x Rated power for 5 secs)	$\Delta R \pm [2\% + R05]$
Temperature Co-efficient of Resistance	<100R ± 120 ppm/°C; <1R0 ± 80 ppm/°C; <100R ± 60 ppm/°C; >100R ± 90 ppm/°C or 30 ppm/°C (depending on wire selected)
Insulation Resistance (Test Method no. 302 of MIL 202F)	> 1000M (Dry) >100M (Wet)
Thermal Shock (Limiting voltage applied until temperature stabilizes and then placed in cold chamber -55°C for 15 minutes)	$\Delta R \pm [2\% + R05]$
Damp Heat (Steady State) / Humidity (70°C at 95% R.H for 250 hours)	$\Delta R \pm [3\% + R05]$
Low Temperature Storage (-55°C for 1 day)	$\Delta R \pm [\leq 2\% + R05]$
Extreme Heat Storage (225 hours at +350°C)	$\Delta R \pm [\leq 2\% + R05]$
Endurance - Load Life [70°C with limiting voltage - 1.5 hours on / 0.5 hours off for 1000 hours]	$\Delta R \pm [\leq 3\% + R05]$
Solvent Resistance [IPA for 60 secs ± 10 secs]	No effect on coating / marking.

Notes :

- Resistance values below and above the shown resistance range are possible on request.
- Non-inductive types in this series are possible.
- Dimensions given are to be used as a guide only, they can be varied to a certain extent due to technical reasons. For example, larger terminals may be used for very low values.
- Pulse / Surge resistors are available in this series.

TYPICAL APPLICATIONS

- Grid resistor
- Voltage dropping resistor
- Bias supply resistor
- High voltage bleeder resistor in power supplies
- Voltage divider networks
- Filament dropping resistor
- Load resistor.

ORDERING INFORMATION

Series	HTR Type	Packing	Resistance Value	Tolerance	Type of Mounting Hardware
HIR	R20A/R20A*	Bulk R20A/R20A*	100R	J	101 / 301

- RoHS version - R20A *
- For Pulse Type - R20A I
- For Non-inductive Type - N R20A