



HJT Series Non-Inductive Bulk Ceramic Slab Resistors provide high power and energy dissipation in a compact size. The HJT Series design enables the designer to minimize resistor package size and cost while providing unequalled performance and reliability. The slim, compact resistors offer a number of termination options allowing easy configuration for specific requirements. HJT Series non-inductive bulk ceramic slab resistors provide excellent performance where high peak power or high-energy pulses must be handled in a small size. The advantage of the bulk construction is that it produces an inherently non-inductive resistor; and it allows energy and power to be uniformly distributed through the entire ceramic resistor body – there is no film or wire to fail. We offer a full line of rugged, reliable ceramic resistors – including custom designs. Standard terminal mounting tabs are tin plated steel which are soldered to the resistor body. Consult factory for other materials.

## ● Features

- Inherently non-inductive, high reliability due to bulk ceramic construction
- 15 watts per inch of length power dissipation (type HJT-1)
- Excellent pulse/overload capability
- Slim profile for excellent volumetric power efficiency
- Resistance range from 0.2 to 870K (resistance range dependent on material type)
- Resistance tolerances 5, 10, 20% standard on individual components, available to  $\pm 2\%$  on assemblies

## ● Applications

HJT-1	HJT-2	HJT-3
<p>Material composition type HJT-1 is formulated to provide lower resistance values and higher derating temperatures. The higher derating temperatures translates to a higher wattage per inch than other material types.</p> <ul style="list-style-type: none"> <li>• Motor Drive Controls</li> <li>• Power Supplies</li> <li>• Power Conditioning Equipment</li> <li>• Soft Start/Current Limit Circuits</li> <li>• Dynamic Braking</li> <li>• Snubber Circuits</li> <li>• RF Dummy Load Circuits</li> <li>• Capacitor Dump Circuits</li> </ul>	<p>Material composition type HJT-2 is formulated to provide high voltage and high energy absorption in a singular package.</p> <ul style="list-style-type: none"> <li>• High voltage power supplies</li> <li>• Capacitor charge/discharge</li> <li>• Pulse test equipment</li> <li>• Radar/broadcast transmitters</li> <li>• Laser/imaging equipment</li> </ul>	<p>Material composition type HJT-3 is formulated to withstand high energy and high voltage applications where the required resistance value is above the resistance values available in Type HJT-1 and Type HJT-2 resistors. Maximum continuous operating temperature is specified at 230° C.</p> <ul style="list-style-type: none"> <li>• DC Coupling and Filter Cap Discharge</li> <li>• Voltage Balancing</li> <li>• Pre-charge / Inrush Limit</li> <li>• Voltage Divider</li> <li>• Filter</li> <li>• Snubber</li> <li>• Crowbar</li> <li>• Measuring</li> <li>• EMI / EFI Test Circuits</li> <li>• Test Loads</li> </ul>

## ● Reference Standards

JISC 5201-1

## ● Ordering Information

Example:

HJT	10	J	10	G1
(1)	(2)	(3)	(4)	(5)
Series Name	Power Rating	Resistance Tolerance	Resistance Value	Terminal Options

(1) Type: HJT-1、HJT-2、HJT-3 SERIES

(2) Power Rating: 10=10W、12=12W、14=14W、18=18W、30=30W

(3) Tolerance: J=±5%、K=±10%、M=±20%

(4) Resistance Value: 10R0=10R、R10=0.1Ω、47R0=47Ω

(5) Terminal Options: blank = Standard aluminum metalized ends, no tabs, per Fig. 1

G1 = Straight radial tabs per Fig 2

G2 = Right angle radial tabs, same direction per Fig 3

G3 = Right angle radial tab, opposite direction, per Fig 4

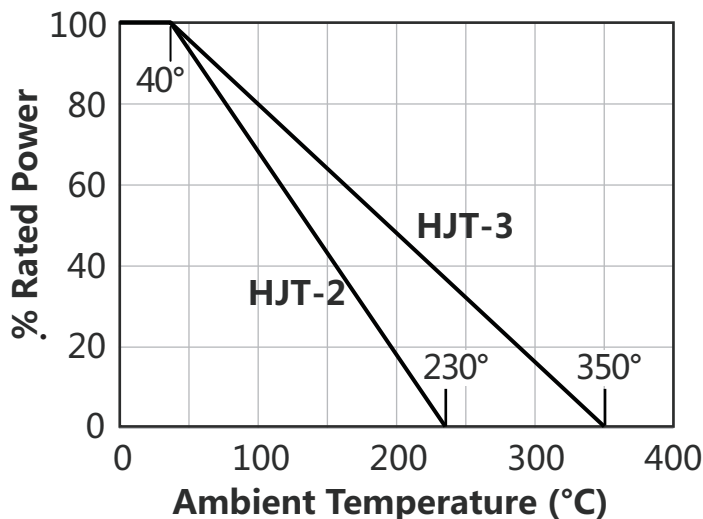
H1 = Low profile axial tabs, per Fig 5

H2 = Elevated axial tabs. per Fig 6

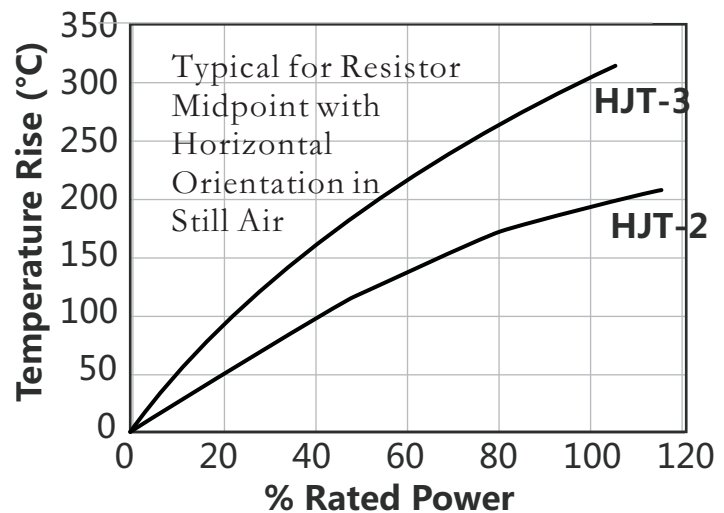
Tin plated steel radial tabs are standard.

Consult factory for other tab materials.

## ● Derating

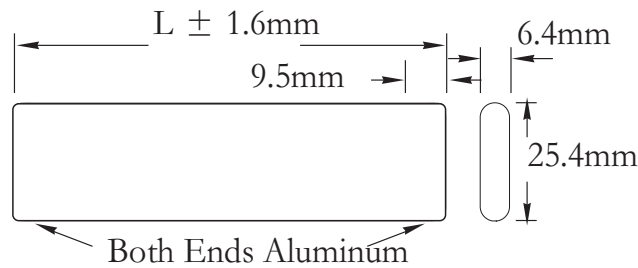


## ● Surface Temperature Rise

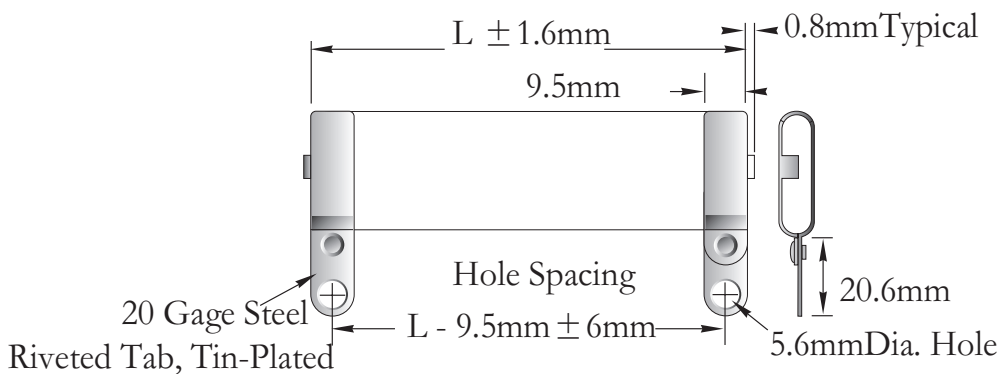


**● Dimensions**

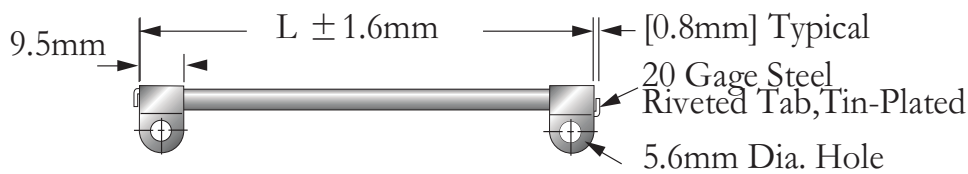
**Fig. 1 Without Tabs**



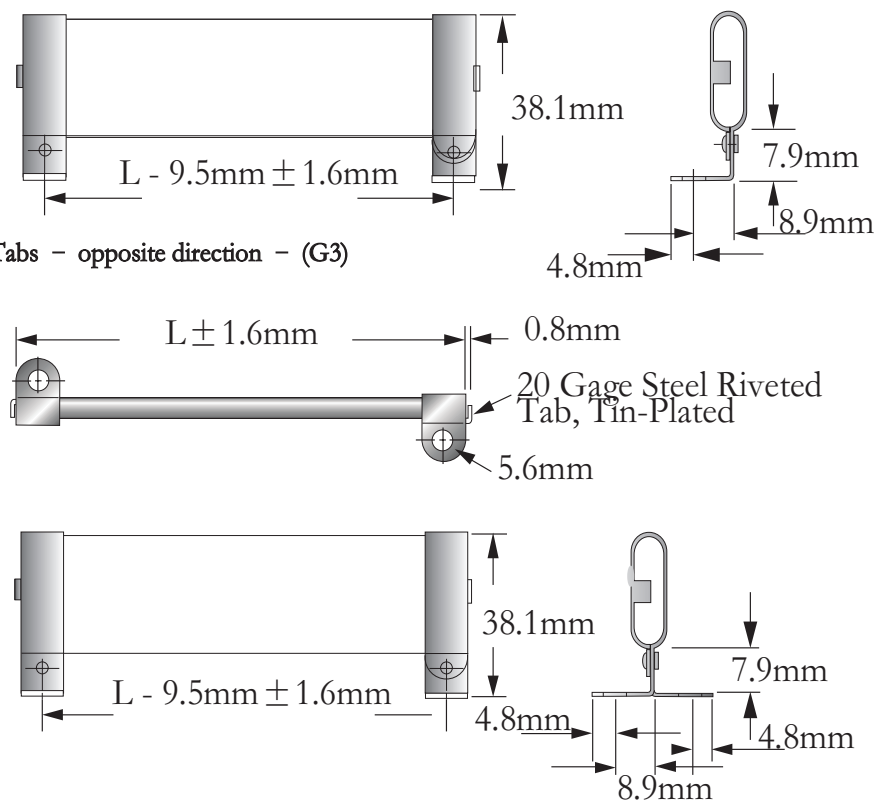
**Fig. 2 With Straight Radial Tabs (G1)**



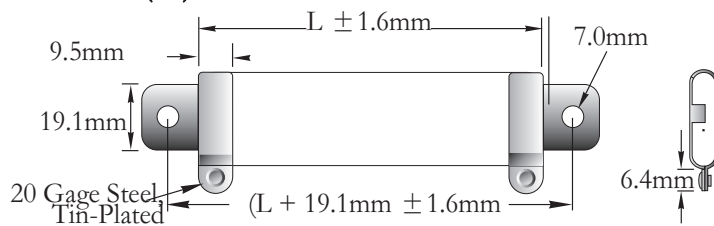
**Fig. 3 With Right Angle Radial Tabs - same direction - (G2)**



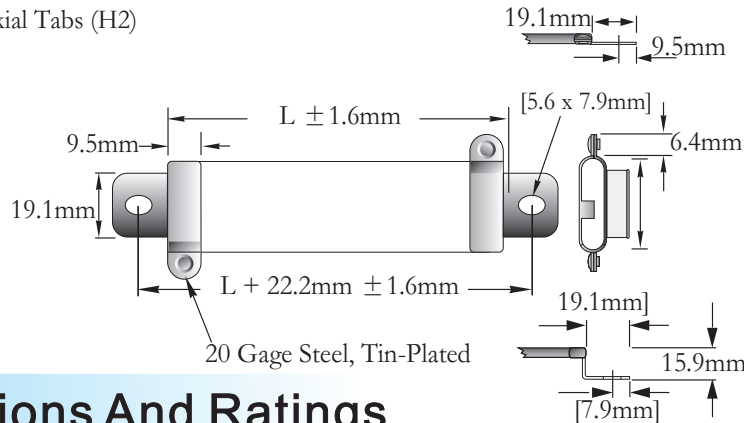
**Fig. 4 With Right Angle Radial Tabs - opposite direction - (G3)**



**Fig. 5** With Low Profile Axial Tabs (H1)



**Fig. 6** With Standoff Axial Tabs (H2)



## Applications And Ratings

Type	Avg. Power @ 40°C Amb. (W)	L ± 1.6 (mm)	Resistance Range (Ω)	Peak* Energy @ 40°C Amb. (J)	Peak* Voltage	Weight (Grams)
HJT-1	30	51	0.2-110	150	900	15
HJT-1	45	76	0.3-190	290	1900	22.5
HJT-1	60	102	0.4-280	480	2800	30
HJT-1	90	152	0.8-450	800	4700	45
HJT-1	120	203	1.0-630	1100	6700	60
HJT-1	150	254	1.3-800	1400	8500	75
HJT-2	12	51	5 - 1200	1500	8500	16
HJT-2	18	76	9 - 2200	2700	16000	24
HJT-2	24	102	13 - 3200	4000	23000	32
HJT-2	30	127	17 - 4200	5200	30000	40
HJT-2	36	152	21 - 5200	6400	36000	48
HJT-2	42	178	25 - 6200	7700	43000	56
HJT-2	48	203	29 - 7200	8900	50000	64
HJT-2	54	229	33 - 8200	10100	57000	72
HJT-2	60	254	37 - 9200	11400	65000	80
HJT-3	10	51	1.2K-110K	700	3000	
HJT-3	14	76	2.2K-210K	1200	5400	
HJT-3	20	102	3.2K-300K	1800	8000	
HJT-3	30	152	5.2K-490K	2900	13000	
HJT-3	38	203	7.2K-680K	4100	18000	
HJT-3	48	254	9.2K-870K	5200	22000	

## ● Packaged assemblies

Individual standard components can be packaged in series, parallel, or series/parallel arrays to optimize energy and power dissipation in available space. Custom assembly pack-ages are available.\*Based on energy absorption in less than 10 milliseconds. Energy rating can be substantially greater for longer pulses. Allowable peak energy/voltage will depend on the resistance value.

## ● Performance

Operating Temperature	HJT-1: -55°C to +350°C When required, Type HJT-1 material can withstand short periods of use at red-heat conditions, i.e. up to 550 to 600°C HJT-2 & HJT-3: -55°C to +230°C	
Temperature Coefficient	HJT-1 & HJT-2: +0.0 to -0.08%/°C, HJT-3: +0.0 to -0.2%/°C	
Density	HJT-1 & HJT-2: 2.2 ~ 2.4 gm/cc, HJT-3: 2.2 - 2.6 gm / cc	
Specific Heat	HJT-1: 0.24 - 0.26 cal/gm°C HJT-2: 0.22 - 0.24 cal/gm°C HJT-3: 0.22 - 0.28 cal / (gm - °C)	
Thermal Conductivity	HJT-1: 0.14 - 0.16 cal/(cm-°C - sec) HJT-2: 0.003 -0.006 cal/cm-°C-sec HJT-3: 0.14 -0.16 cal / (c m - °C - sec)	
Size	Standard units are 1" wide by 1/4" thick in variable lengths of 2, 3, 4, 6, 8 and 10 inches. Other lengths to 10" maximum are available.	
Rated Average Power	HJT-1: 15 watts per inch of length based on 350°C maximum operating temperature with 40°C ambient. HJT-2: based on 230°C maximum operating temperature with 40°C ambient. Derate linearly to 0 Watts at 230° C	
Peak Impulse Current	HJT-1: Max 1000 Amps HJT-2: Max 200 Amps For applications requiring higher current ratings contact factory.	
Short Time Overload	Max. % change after 5 cycles - 10 times rated power, 5 seconds on, 90 seconds off	+2%
Load Life	Max. % chage after 1000 hrs. rated power 1½ hours on; ½ hour off	+5%
Thermal Shock	Max. % change after 10 cycles -55° C to +125° C	+3%
Moisture Resistance	Max. % change when tested per MIL-STD-202, Method 103	+5%