

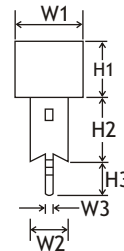
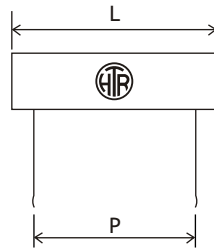
HCP SERIES

PRECISION POWER
Ceramic Encased Wire Wound Resistors
PC Board Applications

- 3 W to 20 W
- Fire proof
- R 10 to 56 K
- Choice of PCB terminal stand-off heights which are adaptable to wave soldering.



PHYSICAL CONFIGURATION

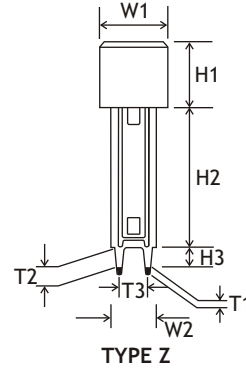
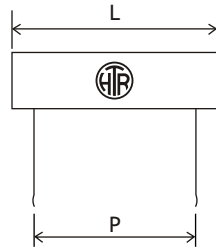


TYPES A, B & C

HTR TYPE	POWER RATING 70°C	DIMENSIONS (mm)									RESISTANCE RANGE		TYPICAL WT PER PC (gms)
		L ±1.5	W1 ±1	H1 ±1	P ±1.5	H2 ±3	H3 ±0.5	W2 ±0.3	W3 ±0.2	min	max		
CP-3A	3W	24.5	9.5	9.5	12.0	15.0	4.5	7.3	1.4	R10	15K	6.4	
CP-5	5W	27.0	9.5	9.5	15.0	15.0	4.5	7.3	1.4	R10	18K	6.9	
CP-5A		27.0	9.5	9.5	15.0	26.0	4.5	7.3	1.5			8.0	
CP-7	7W	35.0	9.5	9.5	22.5	15.0	4.5	7.3	1.4	R10	30K	8.3	
CP-7A		35.0	9.5	9.5	22.5	26.0	4.5	7.3	1.5			9.3	
CP-10	10W	48.0	9.5	9.5	35.0	15.0	4.5	7.3	1.4	R10	47K	10.8	
CP-10A		48.0	9.5	9.5	35.0	26.0	4.5	7.3	1.5			11.6	
CP-15	15W (25°C)	48.0	12.5	12.5	32.5	15.0	4.5	7.3	1.4	R10	43K	17.5	
CP-15A		48.0	12.5	12.5	32.5	26.0	4.5	7.3	1.5			18.6	
CP-15B	15W (25°C)	48.0	12.5	12.5	32.5	15.0	5.0	10.0	2.7	R10	43K	17.0	
CP-15C		48.0	12.5	12.5	32.5	30.0	5.0	10.0	2.7			20.0	
CP20	20W (25°C)	63.0	12.5	12.5	48.0	15.0	4.5	7.3	1.4	R15	56K	22.9	
CP20A		63.0	12.5	12.5	48.0	26.0	4.5	7.3	1.5			23.8	
CP-20B	20W (25°C)	63.0	12.5	12.5	48.0	15.0	5.0	10.0	2.7	R15	56K	23.5	
CP-20C		63.0	12.5	12.5	48.0	30.0	5.0	10.0	2.7			26.5	



PHYSICAL CONFIGURATION



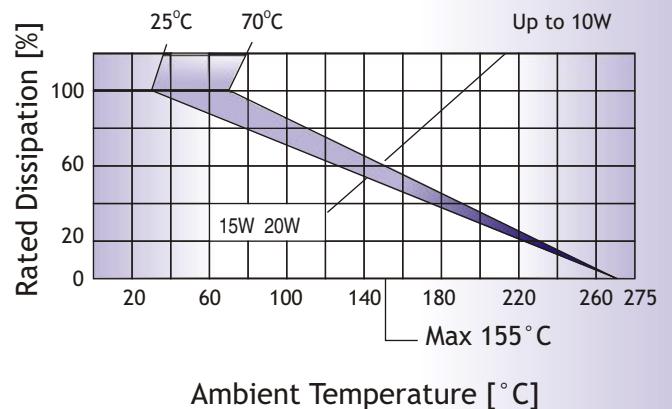
HTR TYPE	POWER RATING 70°C	DIMENSIONS (mm)										RESISTANCE RANGE		WT PER PC (gms)
		L ±1.5	W1 ±1	H1 ±1	P ±1.5	H2 ±2	H3 ±0.5	W2 ±0.3	T1 ±0.2	T2 ±0.2	T3 ±0.2	MIN	MAX	
CP-5Z	5W	27.0	9.5	9.5	15.0	22.0	4.5	7.3	1.1	1.5	3.5	R10	18K	7.5
CP-7Z	7W	35.0	9.5	9.5	22.5	22.0	4.5	7.3	1.1	1.5	3.5	R10	30K	8.5
CP-10Z	10W	48.0	9.5	9.5	35.0	22.0	4.5	7.3	1.1	1.5	3.5	R10	47K	10.6
CP-15Z	15W (25°C)	48.0	12.5	12.5	32.5	30.0	5.0	10.0	1.5	2.0	5.0	R10	43K	19.5
CP-20Z	20W (25°C)	63.0	12.5	12.5	48.0	30.0	5.0	10.0	1.5	2.0	5.0	R15	56K	25.0

Note : CP 15 / 15A, 15B, 15C & 15Z can also be supplied in a pitch of 35mm. Please specify if required. In this pitch (max) resistance value will be 47K.

ELECTRICAL AND ENVIRONMENTAL CHARACTERISTICS / DATA

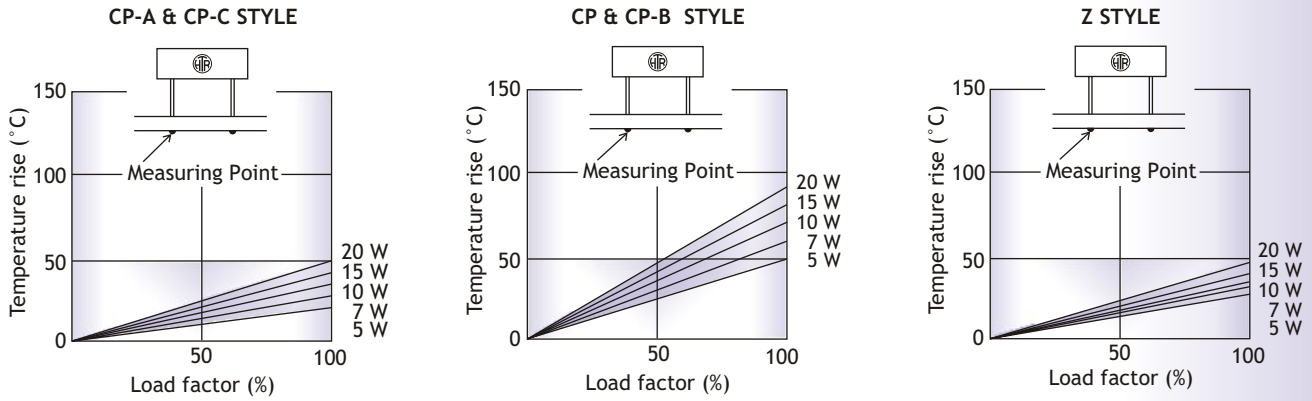
Test	Performance Requirements
Resistance tolerance	± 10% [K]; ± 5% [J]
Rated ambient temperature [see derating curve]	Up to 10W, full power dissipation at 70°C 15W/20W full power dissipation at 25°C
Dielectric withstanding voltage	Max R ± [2% + R05]
Insulation resistance	> 1000 M [minimum]
Temperature co-efficient	±100 ppm/ °C [>100R] ±80 ppm/ °C [<100R] ±450 ppm/ °C [<1R0]
Short time overload	Max R ± [2% +R05]
Moisture resistance	Max R ± [3% +R05]
Load life	Max R ≤ [5% +R05]
Ambient operating temperature range	-40°C to +155°C
Flame test	Specifications laid down by UL have been met satisfactorily.
Temperature rise at PCB solder joint	Refer temperature rise data chart on next page.

DERATING CURVE





TEMPERATURE RISE CHART.



PCB DESIGN SUGGESTIONS

Power Rating	CP - & CP-A TYPES	HCP - Z TYPES	P
5W			15.0
7W			22.5
10W			35.0
15W			32.5
20W			48.0

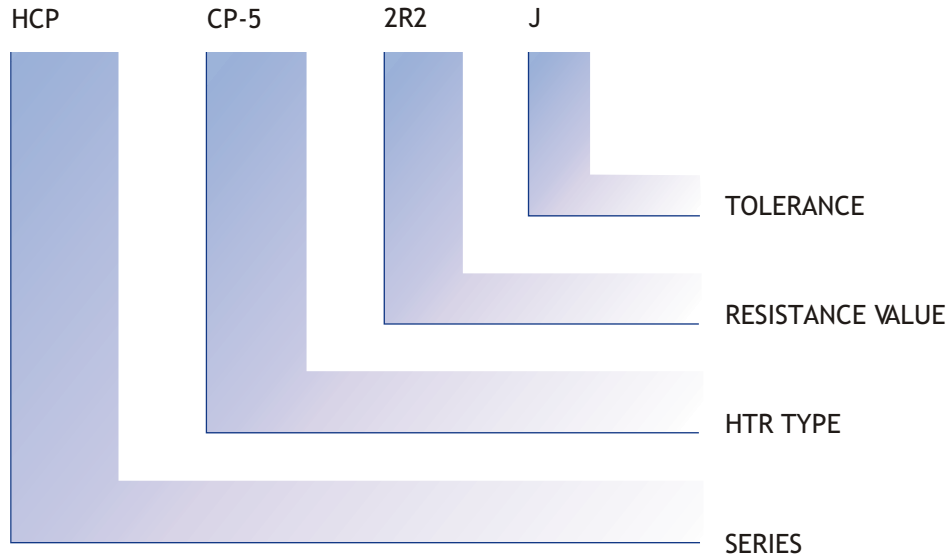
CP-B & CP-C TYPES

TYPICAL APPLICATIONS

HCP Series has terminations as per international dimensions so they can be merely snapped on to PC boards having international design/size and then wave soldered. For PCB design suggestions please refer to the section above.



ORDERING INFORMATION



Note : Types CP-10/10A, CP-15/15A/15B/15C/15CP/15Z & CP-20/CP20A/20B/20C/20Z may have cases with bottom bumps as per international practice
Due to recent technological advances, the ceramic cases used may be steatite ceramic or cordierite ceramic or high alumina ceramic depending on the nature of the application. Hence the ceramic cases may be off-white or variations of brown and variations of grey; colours which are inherent to these ceramic materials.