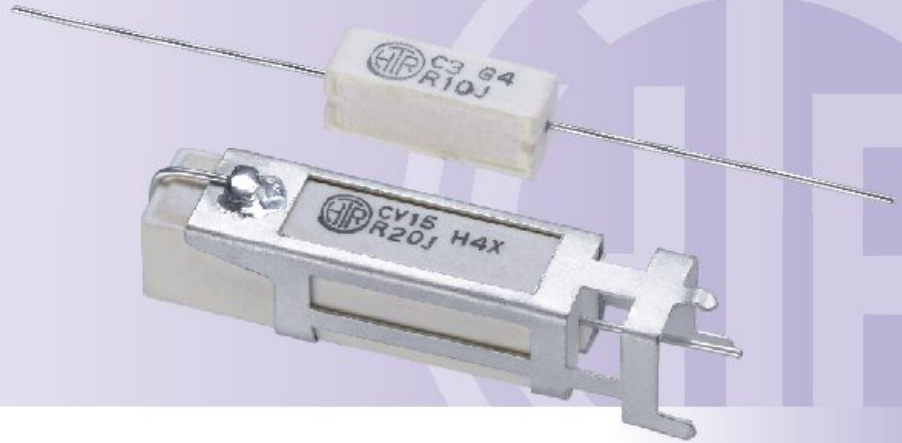
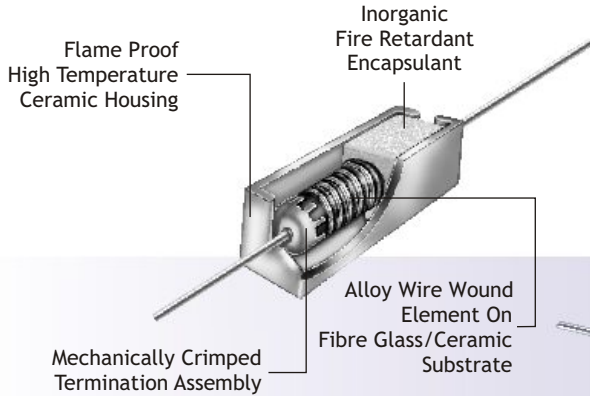




HCA/HCV SERIES

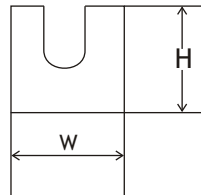
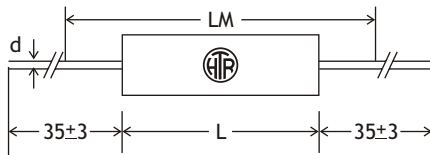
POWER TYPE
Ceramic Encased Wire Wound Resistors
Fire Proof



- Very high degree of insulation
- Low surface temperature
- 1 W to 20 W
- R10 to 56K

PHYSICAL CONFIGURATION

HCA SERIES



HTR TYPE	POWER RATING at 70°C	DIMENSIONS (mm)					RESISTANCE RANGE		TYPICAL WT. PER PC (gms)
		L ±1.5	W ±1	H ±1	d ±0.05	* LM ±1	min	max	
C-1A	1W	13.0	5.5	5.5	0.8	35	R05	2K7	1.4
C-1	1W	15.0	7.5	6.5	0.8	35	R05	4K7	1.9
C-2	2W	17.5	7.5	7.0	0.8	40	R05	7K5	2.5
C-3	3W	22.0	8.0	8.0	0.8	45	R05	11K	3.8
C-5	5W	22.0	9.5	9.5	0.8	45	R05	11K	5.1
C-7	7W	35.0	9.5	9.5	0.8	55	R05	30K	7.8
C-10	10W	48.0	9.5	9.5	0.8	70	R05	43K	10.8
C-15	15W (25°C)	48.0	12.5	12.5	1.0	70	R05	43K	17.8
C-20	20W (25°C)	63.5	12.5	12.5	1.0	85	R10	56K	22.0

* For resistance values less than R10 and tolerance less than ±2% please measure resistance over centered length LM.

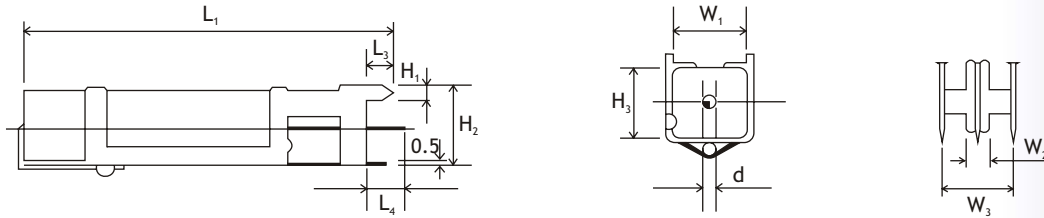
- Pulse type resistors are available in this series by substituting the resistance element and the substrate from fibre glass to ceramic.

For further information please refer to "Understanding pulse & over load capability of wire wound resistors".

In case a tailor-made pulse resistor is required, please refer to "Questionnaire of data required" and provide data accordingly.



PHYSICAL CONFIGURATION



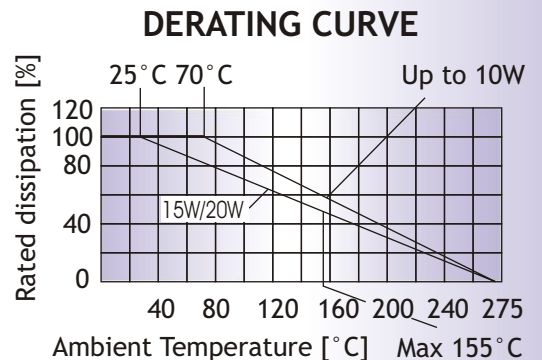
HCV SERIES

HTR TYPE	POWER RATING AT 70°C	DIMENSIONS (mm)										RESISTANCE RANGE		TYPICAL WT PER PC (gms)
		L ₁	L ₃	L ₄	H ₁	H ₂	H ₃	W ₁	W ₂	W ₃	d±0.1	min	max	
CV-7	7	60±1.5	5±0.5	7±1	2.1±0.15	11±1	9.5±1	10±1	2.1±0.15	10±1	0.8	R10	30K	10.0
CV-10	10	67±1.5	5±0.5	7±1	2.1±0.15	11±1	9.5±1	10±1	2.1±0.15	10±1	0.8	R10	43K	13.3
CV-15	15 (25°C)	62.5±2	4.5±0.2	6.5±1	2.5±0.15	14±1	12.5±1.2	13±1.2	2.5±0.15	13±1	1.0	R10	43K	22.1
CV-20	20 (25°C)	78±2	4.5±0.2	6.5±1	2.5±0.15	14±1	12.5±1.2	13±1.2	2.5±0.15	13±1	1.0	R10	56K	26.4

- In order to facilitate vertical mounting of the large 7W to 20W resistors in HCA series on heavily populated PCB's they can be supplied on request with mounting brackets as shown in HCV series.

ELECTRICAL AND ENVIRONMENTAL CHARACTERISTICS / DATA

Test	Performance Requirements
Resistance tolerance	± 10% [K]; ± 5% [J]; ±3% [H]; ±2% [G] ± 1% [F]
Rated ambient temperature [See derating curve]	upto 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 [> 10R] ±80 ppm/ °C [< 10R] ±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.



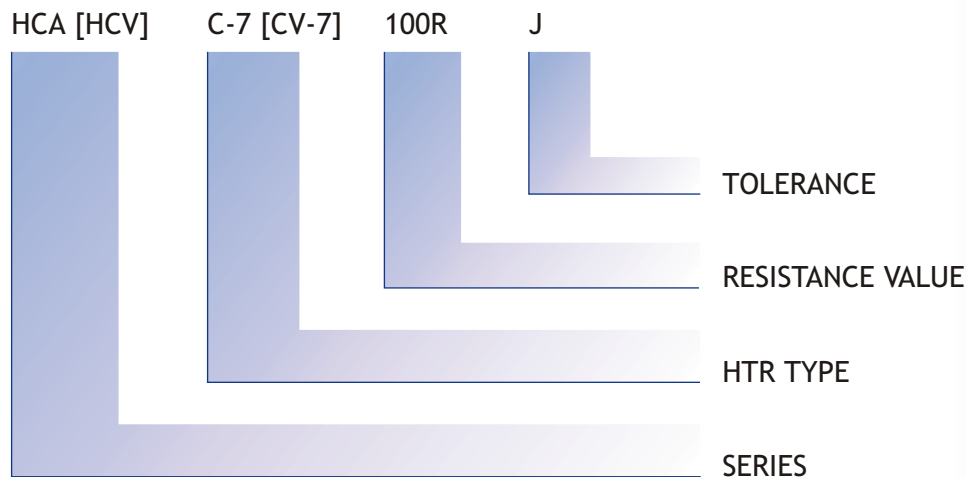


TYPICAL APPLICATIONS

HCA/HCV series resistors are almost universally used in the far east for almost all audio, TV and Industrial Equipment applications. This series enjoys the following distinct advantages over normal coated resistors :

- 1) As the resistive element is hermetically sealed in a ceramic case using a cement which enjoys flame retardant properties even at high overload no damage can be caused to neighbouring components.
- 2) Due to very high degree of insulation and low surface temperature, these resistors can be mounted with their bodies relatively closer to the PCB.
- 3) These resistors are also commonly referred to in the far east as cement resistors owing to the nature of their construction.
- 4) In certain markets these resistors are also wrongly called fusible resistors.
- 5) The Impulse type variant in this series is widely used for pulse and surge applications.

ORDERING INFORMATION



- Note :**
- 1) In case Pulse type is required please suffix HTR type with I eg. C-5I.
 - 2) 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.
 - 3) Types C-10, C-15 and C-20 may have cases with bottom bumps as per international practice.