

Type HPCR Series

Key Features

Non-inductive
“bulk ceramic”
resistor

Uniform
distribution of
energy
throughout
resistor
Body

Replacement
of Carbon
Composition
Resistors

Large peak
energy in small
size

High voltage
and energy
absorption

Applications

Pulse
Waveform

EMI/EFI Test
Circuits

RF Dummy
Load Circuits

Capacitor
Dump Circuits



TE Connectivity HPCR Series Axial Leaded Non-Inductive Bulk Ceramic 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 noninductive 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.

As alternatives to hard to find carbon composition resistors, Ceramic composition resistors can be used as drop-in replacements for 2 watt sizes.

Characteristics – Electrical

Type	Resistance Range	Avg. power rating ¹ (W)	Rated Peak Energy ² (J)	Rated Peak Voltage ² (V)	Rated Peak Current ³ (A)
HPCR0819	5R6 – 1K8	2	170	1100	150

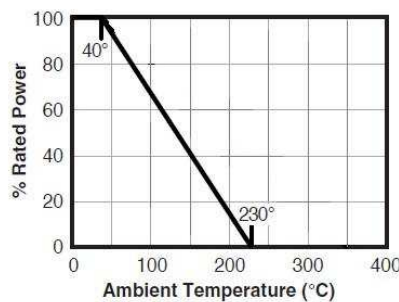
Notes:

¹ @ 40°C Ambient. Derate linearly to 0 Watts at 230°C

² Allowable peak energy/voltage will depend on the resistance value and pulse width. Energy ratings are based on pulse <10 milliseconds.

³ Peak Current Ratings presume energy approaching rated peak energy values. Allowable current can be higher for lower energy values.

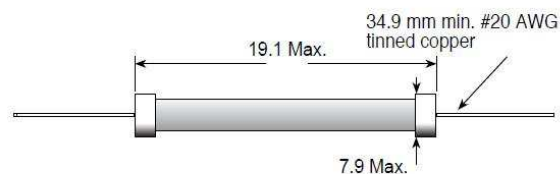
Derating



Characteristics - Environmental

Characteristics	Test	Requirement
Operating Temp.		-55°C to +230°C
Resistance Temp. Coefficient		+0 / -800 PPM/°C
Voltage Coefficient	Max. % per kilovolt per inch active length	-1.0%
Short Time Overload	Max. % change after 10 cycles of 1000% rated power 5 sec. On, 90 sec. Off	±2%
Load Life	Max. % change after 1,000 hours at rated power	±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%
Density		2.2-2.6 gm/cc
Specific Heat		0.23-0.25 cal/gm -°C
Thermal Conductivity		0.003-0.006 cal/(cm-°C-sec)

Dimensions



NB. Resistor shown without protective coating.

Terminal

S - Standard Includes dielectric coating and silver metalization under caps/leads.

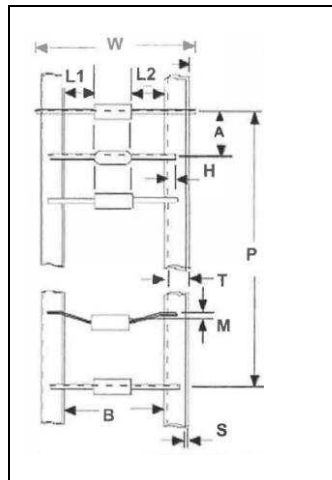
O – Oil resistant coating suitable for immersion in oil.

Marking

HPCR0819
TE
DATE CODE
VALUE & TOLERANCE

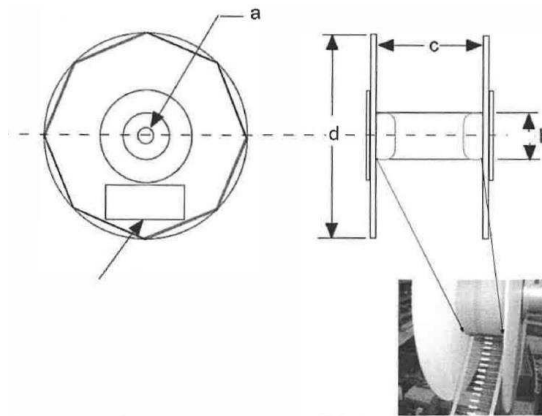
Packaging

Tape Specification



Notation	Dimension
A	15mm
B	93±2mm
H	T/2 (mm)
L1-L2	1.4mm Max.
M	0.8mm Max.
P	10 x A (nom.) ±2mm
S	0.7874mm Max
T	6mm ± 1mm
W	107mm Max

Reel



Notation	Dimension	Note 1
d	76.2mm – 355.6mm	The dimension "C" between the flange reel, as shown above should be governed by the total width "W" of the lining component. The dimension "C" between the coil flanges of the wound components must be 1.5 mm to 8.0 mm greater than the width of the taped component (position "W")
a	13.9mm – 38.1mm	
c	See Note 1 108.5mm – 115mm	
h	34mm – 92.1mm	

How To Order

Common Part	Size	Construction	Value	Tolerance	Terminal	Packaging
HPCR - High Performance Ceramic Resistor	0819 – 7.9 x 19.1 mm	A	6R8 100R 1K0, etc.	J – 5% K – 10%	S - Standard O - Oil resistant coating	T - Tape and Reel