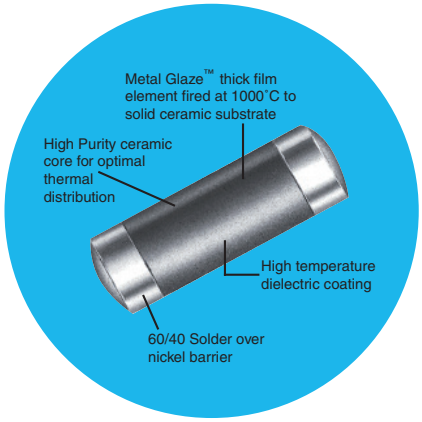
Resistors

Metal Glaze™ Cylindrical Small Size Power Resistor

CHP1X Series

- 0.1 ohm to 10K ohm
- Outstanding surge capacity
- 1W in a 1/2W package (2010 footprint)
  150°C maximum operating temperature



OBSOLETE

All Pb-free parts comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

Industry Footprint	IRC Type	Maximum Power Rating	Working Voltage[1]	Maximum Voltage	Resistance Range (ohms)[2]	Tolerance (±%)[2]	TCR (±%)[3]	Product Category
2010	CHP 1X	1W @ 70°C	300	600	0.1 to 0.99	1, 2, 5	100	Low Range
					1.0 to 10K	1, 2, 5	50, 100	Standard

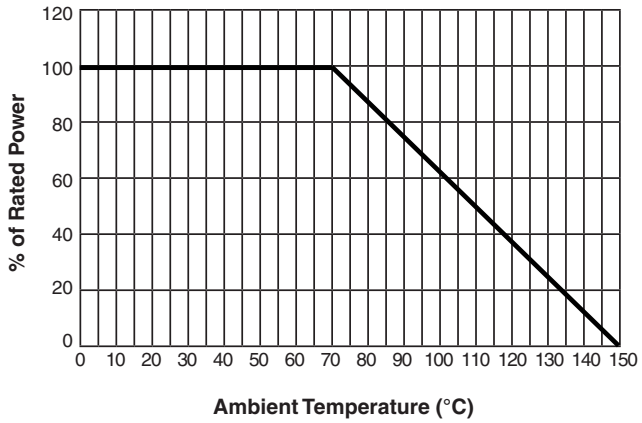
[1]Not to exceed $\sqrt{P \times R}$ [2]Consult factory for tighter TCR, tolerance, or resistance values

Environmental Data

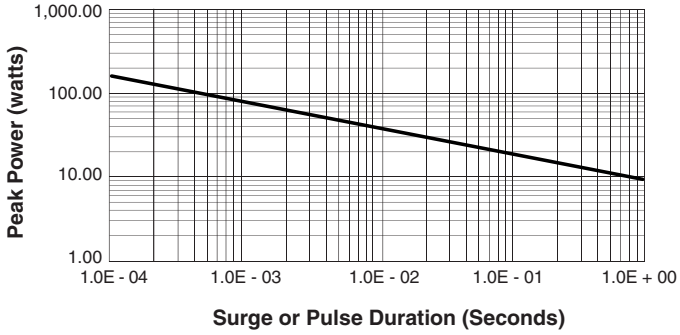
Characteristics	Maximum Change	Test Method
Temperature Coefficient	As specified	MIL-R-55342E Par 4.7.9 (-55°C + 125°C)
Thermal Shock	±0.5% + 0.01 ohm	MIL-R-55342E Par 4.7.3 (-65°C + 150°C, 5 cycles)
Low Temperature Operation	±0.25% + 0.01 ohm	MIL-R-55342E Par 4.7.4 (-65°C @ working voltage)
Short Time Overload	±0.5% + 0.01 ohm ±1% for R>100K ohm	MIL-R-55342E Par 4.7.5 2.5 x $\sqrt{P \times R}$ for 5 seconds
High Temperature Exposure	±0.5% + 0.01 ohm	MIL-R-55342E Par 4.7.6 (+150°C for 100 hours)
Resistance to Bonding Exposure	±0.25% + 0.01 ohm	MIL-R-55342E Par 4.7.7 (Reflow soldered to board at 260°C for 10 seconds)
Solderability	95% minimum coverage	MIL-STD-202, Method 208 (245°C for 5 seconds)
Moisture Resistance	±0.5% + 0.01 ohm	MIL-R-55342E Par 4.7.8 (10 cycles, total 240 hours)
Life Test	±0.3% + 0.01 ohm	MIL-R-55342E Par 4.7.10 (2000 hours @ 70°C intermittent)
Terminal Adhesion Strength	±1% + 0.01 ohm no mechanical damage	1200 gram push from underside of mounted chip for 60 seconds
Resistance to Board Bending	±1% + 0.01 ohm no mechanical damage	Chip mounted in center of 90mm long board, deflected 5mm so as to exert pull on chip contacts for 10 seconds

OBSOLETE

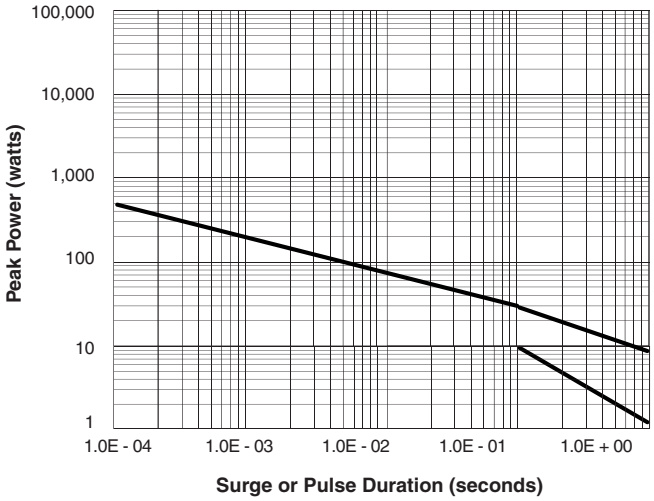
Power Derating Curve



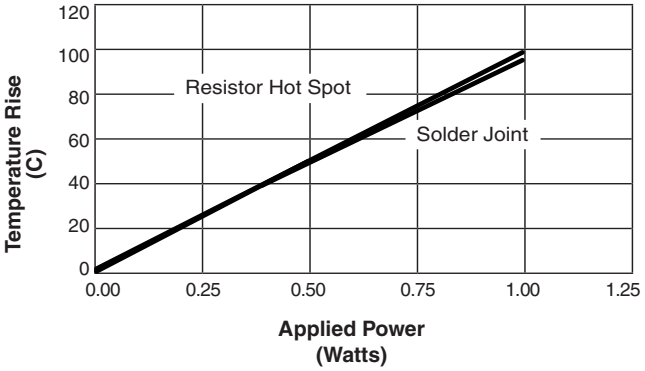
Repetitive Surge Curve



Non/Low Repetitive Surge Curve



Temperature Rise Chart



Ordering Data

Sample Part No. CHP 1X - 100 - 2203 - F - 13

IRC Type
(CHP 1X)

Temperature Coefficient
(50 ppm, 100 ppm)

Resistance Value
(100 ohms and greater - First 3 significant digits plus 4th digit multiplier)
Example: 100 ohms = 1000, 1000 ohms = 1001, 150,000 ohms = 1503
(Less than 100 ohms - "R" is used to designate decimal)
Example: 51 ohms = 51R0, 1 ohm = 1R00, 0.25 ohms = R250

Tolerance
(C = 0.25%; D = 0.5%; F = 1.0%; G = 2.0%; J = 5.0%)

Packaging Code*
(BLK = Bulk, 7 = 7" Reel, 13 = 13" Reel)