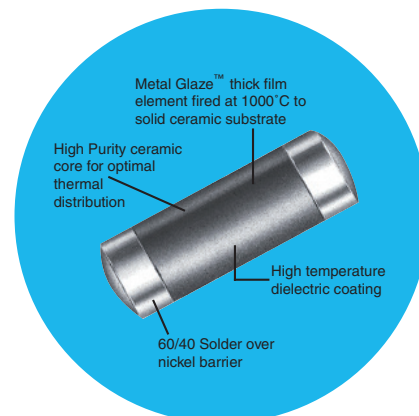


Metal Glaze™ Cylindrical Official Size Power Resistor

CHP1X Series

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



 All Pb-free parts comply with EU Directive 2011/65/EU (RoHS2)

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

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

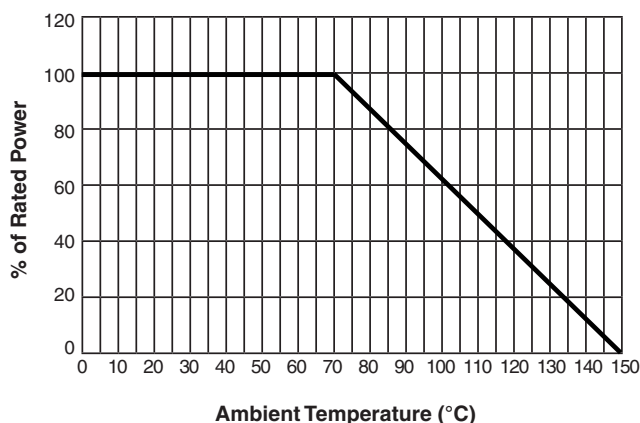
Environmental Data

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 $2.5 \times \sqrt{P \times R}$ 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

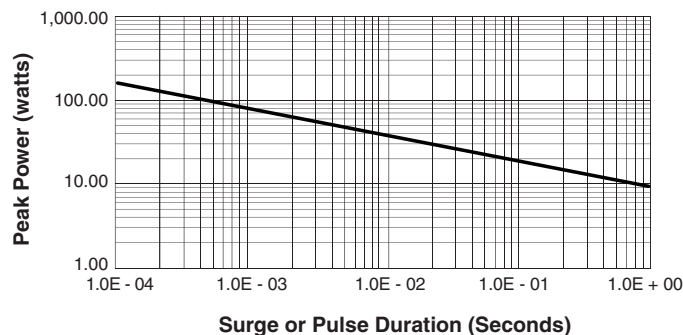
General Note

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All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

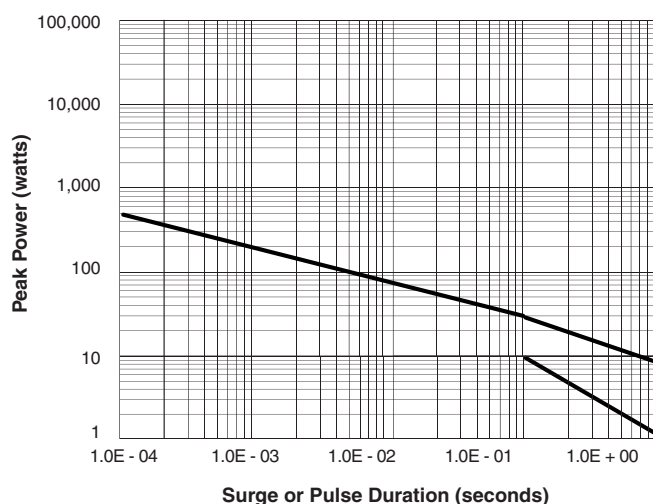
Power Derating Curve



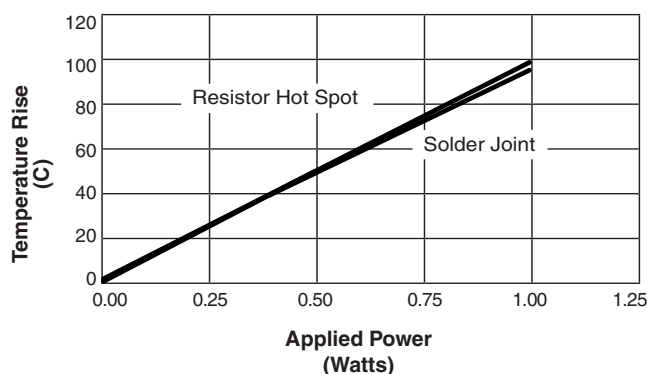
Repetitive Surge Curve



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)									

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