

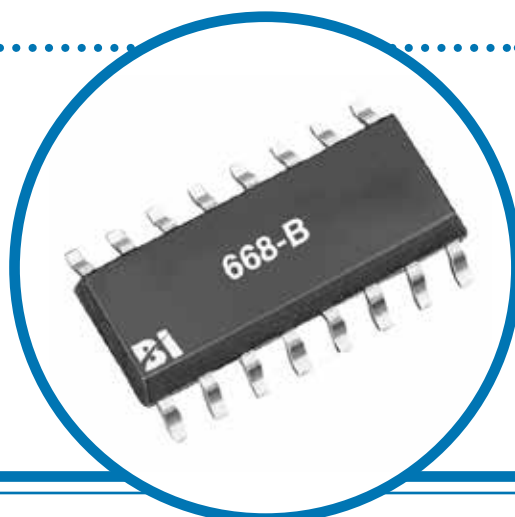
Nichrome Resistor Networks on Ceramic Substrates

Models 664, 667, 668

- Isolated and bussed circuits
- Thin film resistor network
- 0.150" SOIC packages
- RoHS compliant

Not Recommended for New Designs

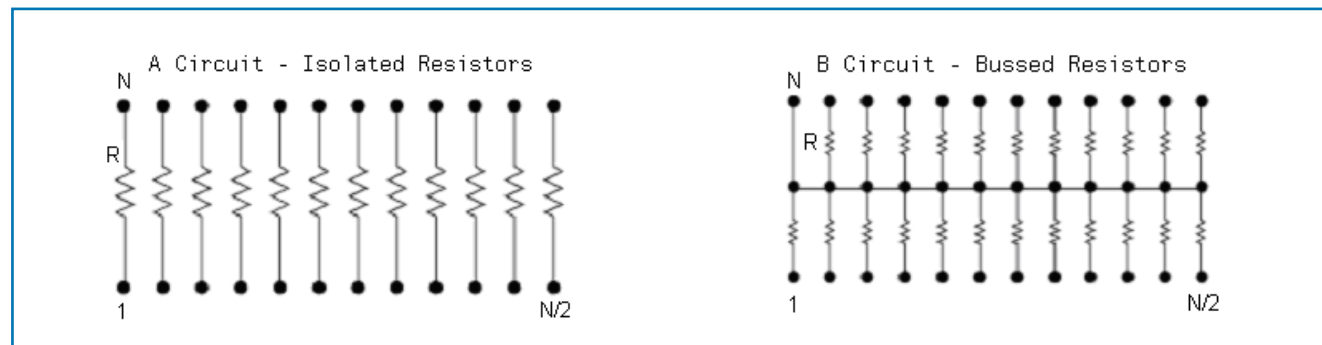
For alternative see http://www.ircct.com/file.aspx?product_id=215&file_type=datasheet



Features

Precision Nichrome Resistors on Ceramic	Passivation coating provides protection in humid environments Excellent frequency response Excellent long term resistance stability
Industry Standard Packaging	JEDEC 95, MS-012 (SOIC narrow body in 8, 14 and 16 lead pin counts)
Ratio Tolerances	< $\pm 0.05\%$
TCR Tracking Tolerances	< $\pm 5 \text{ ppm}/^{\circ}\text{C}$

Schematics



Electrical¹

Standard Resistance Range ²	1K ohms to 100K ohms (Isolated) 1K ohms to 20K ohms (Bussed)
TCR	$\pm 25 \text{ ppm}/^{\circ}\text{C}$
TCR Tracking	$\pm 5 \text{ ppm}/^{\circ}\text{C}$
Operating Temperature Range	-55°C to +125°C
Interlead Capacitance	< 2pF
Insulation Resistance	$\geq 10,000 \text{ Megohms}$
Maximum Operating Voltage	100 Vdc or $\sqrt{\text{PR}}$
Noise, Maximum (MIL-STD-202, Method 308)	-40 dB
Resistor Power Rating at 70°C	0.1 Watts

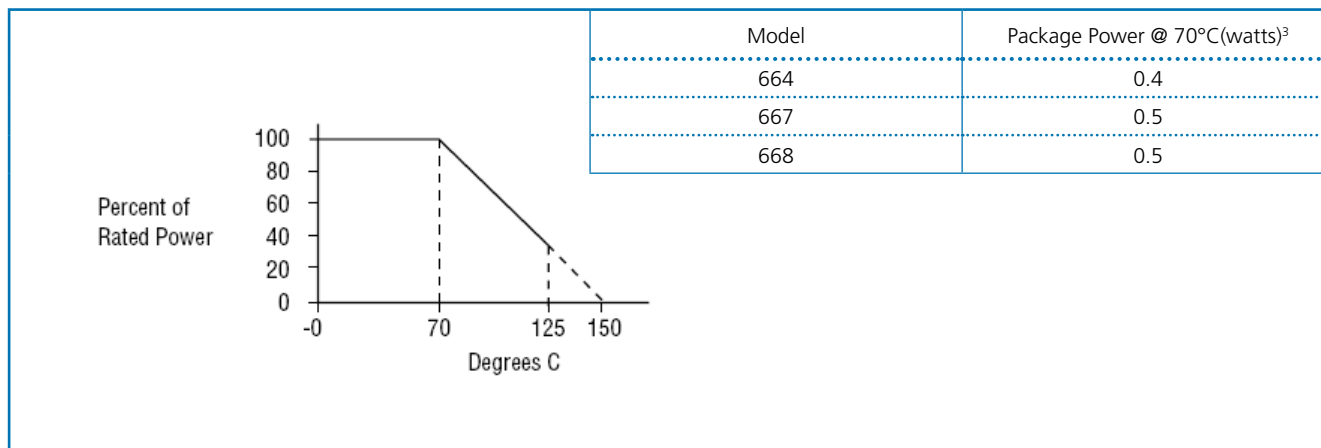
¹ Specifications subject to change without notice.

² E96 codes available.

General Note

TT electronics reserves the right to make changes in product specification without notice or liability.
All information is subject to TT electronics' own data and is considered accurate at time of going to print.

Package Power And Derating Curve



Environmental (Mil-R-83401)

Thermal Shock plus Power Conditioning	ΔR 0.25%
Short Time Overload	ΔR 0.1%
Terminal Strength	ΔR 0.1%
Moisture Resistance	ΔR 0.2%
Mechanical Shock	ΔR 0.25%
Vibration	ΔR 0.25%
Low Temperature Operation	ΔR 0.1%
High Temperature Exposure	ΔR 0.1%
Load Life, 1,000 Hours	ΔR 0.1%
Resistance to Solder Heat	ΔR 0.1%
Dielectric Withstanding Voltage	100V for 1 minute
Temperature Exposure, Maximum	215°C for 3 minutes
Marking Permanency	MIL-STD-202, Method 215
Lead Solderability	MIL-STD-202, Method 208
Flammability	UL-94V-0 Rated
Storage Temperature Range	-65°C to +125°C

Mechanical

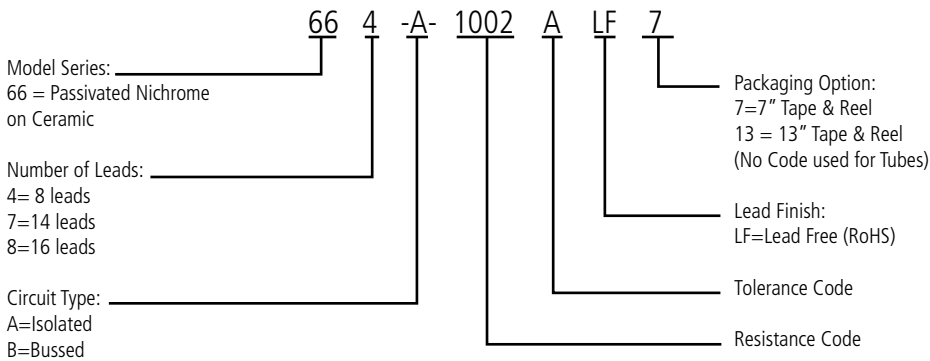
Lead Plating	100 matte Tin (RoHS)
Lead Material	Copper Alloy
Lead Configuration	Gull Wing
Lead Coplanarity	0.004" (0.102 mm)
Substrate Material	Alumina
Resistor Material	Passivated Nichrome
Body Material	Molded Epoxy

³ Maximum power per resistor @ 70°C is 100 mW, not to exceed package power

General Note

TT electronics reserves the right to make changes in product specification without notice or liability.
All information is subject to TT electronics' own data and is considered accurate at time of going to print.

Ordering Information⁴



Resistance Code⁴

First 3 digits are significant. Fourth digit denotes number of trailing zeros. For values less than 100, use "R" to denote a decimal point. Example, 51 and 10000 ohms are coded as 51R0 and 1002 respectively. Standard values follow E96.

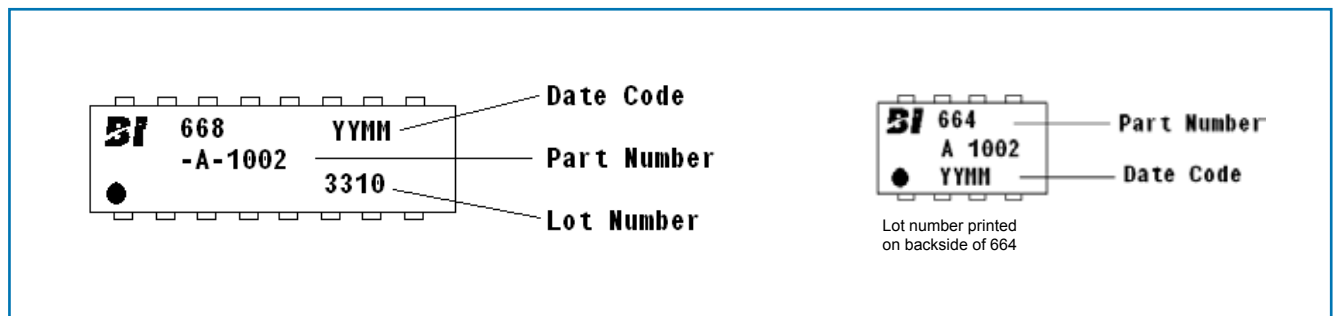
Resistance Tolerance Code

Accuracy Code at 25°C	A	B	D	F
Absolute Resistance Tolerances (%)	± 0.1	± 0.1	± 0.5	± 1.0
Ratio Tolerances (R1 Ref) (%)	± 0.05	± 0.1	± 0.1	± 0.5
Temperature Coefficient of Resistance (ppm/°C)	±25			
Temperature Coefficient of Resistance, Tracking (ppm/°C)	±5			

Packaging Options (Unit Count/Package Type)

Model + Pin count	Tubes	7" Tape & Reel	13" Tape & Reel
664	100	1000	2500
667	50	500	2500
668	50	500	2500

Typical Marking



⁴ Contact customer service for custom designs and features.

General Note

TT electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT electronics' own data and is considered accurate at time of going to print.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

TT Electronics:

[664A1001A](#) [664A1001B](#) [664A1002A](#) [664A1002B](#) [664A1002D](#) [664A1002D7](#) [664A1003A](#) [664A1003D](#) [664A2001B](#)
[664A2002A](#) [664A2002D7](#) [664A2002D7LF](#) [664A5001D7](#) [664A5002B](#) [668A1000D7](#) [668A1001D7](#) [668A1002A](#)
[668A1002B](#) [668A1002D](#) [668A1002D7](#) [668A1003B](#) [668A1003B7](#) [668A1003F7](#) [668A2002B](#) [668A2002BLF](#)
[668A2002D7](#) [668A5001A](#) [668A5001B](#) [668A5001BLF](#) [668A5002B](#) [668A5002B7](#) [668A5002BLF](#) [668A1003A](#) [664-A-](#)
[2001ALF](#) [667-A-1002BLF7](#) [667-A-1003DLF](#) [668-A-1001DLF](#) [668-A-1002FLF](#) [668-A-1003DLF](#) [668-A-2001BLF](#) [668-](#)
[A-5001DLF](#) [664A1002F7](#) [664A5002A](#) [668A2610D](#) [664A1002ALF7](#) [664A1002B7](#) [668A1003DLF7](#) [664A1002BLF7](#)
[664A1001ALF](#) [664A1001BLF](#) [664A2001BLF](#) [664A4991BLF7](#) [664A1002ALF](#) [664A1002BLF](#) [664A1002DLF](#)
[664A1002DLF7](#) [664A2002ALF](#) [664A2002DLF7](#) [664A1003ALF](#) [664A1003DLF](#) [668A1000DLF7](#) [668A1001DLF7](#)
[668A5001ALF](#) [668A1002ALF](#) [668A1002BLF](#) [668A1002DLF](#) [668A1002DLF7](#) [668A2002DLF7](#) [668A5002BLF7](#)
[668A1003BLF](#) [668A1003BLF7](#) [664A1002FLF7](#) [664A5001BLF7](#) [667A1002DLF](#) [668A1003ALF](#) [668A1003FLF7](#)
[668B1003BLF](#) [664A1002FLF](#) [664A1003A7](#) [664-A-1001DLF](#) [668-A-1002BLF7](#) [664A5001DLF](#) [668A1003FLF](#)