



THE DATASHEET OF 698-3-R20K

Nichrome Resistor Networks on Ceramic Substrates



Model 694, 698, 699 Series

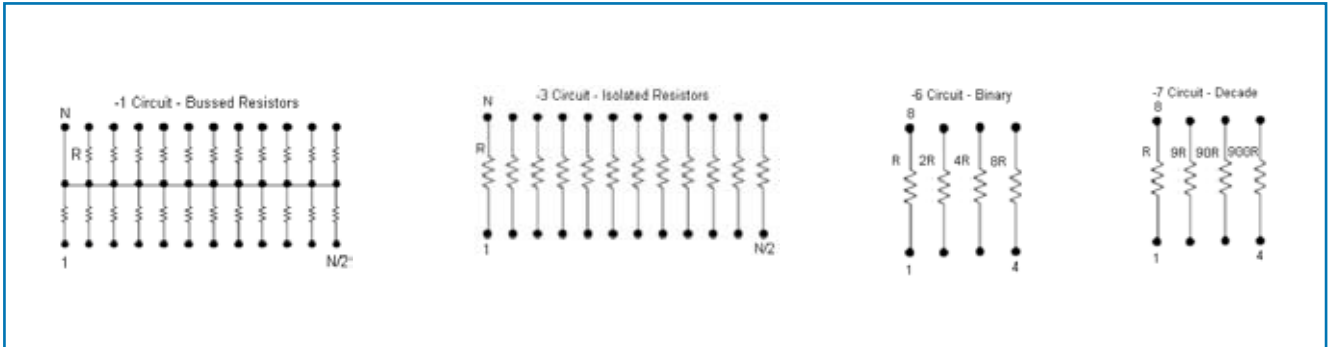
- Isolated, bussed and other circuits
- Thin film resistor network
- 0.300" PDIP packages
- RoHS compliant



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-001 (Plastic DIP 0.300 inch wide in 8, 14 and 16 lead pin counts)
Ratio Tolerances	< $\pm 0.05\%$
TCR Tracking Tolerances	< ± 5 ppm/ $^{\circ}\text{C}$

Schematics



Electrical¹

Standard Resistance Range ²	1K ohms to 100K ohms (Isolated) 1K ohms to 45K ohms (Bussed)
TCR ³	± 25 ppm/ $^{\circ}\text{C}$
TCR Tracking ³	± 5 ppm/ $^{\circ}\text{C}$
Operating Temperature Range	-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$
Interlead Capacitance	< 2pF
Insulation Resistance	$\geq 10,000$ Megohms
Maximum Operating Voltage	100 Vdc or $\sqrt{\text{PR}}$
Noise, Maximum (MIL-STD-202, Method 308)	-40 dB
Resistor Power Rating at 70 $^{\circ}\text{C}$	0.1 Watts

¹ Specifications subject to change without notice.

² E96 codes available.

³ Standard limits for all resistance codes.

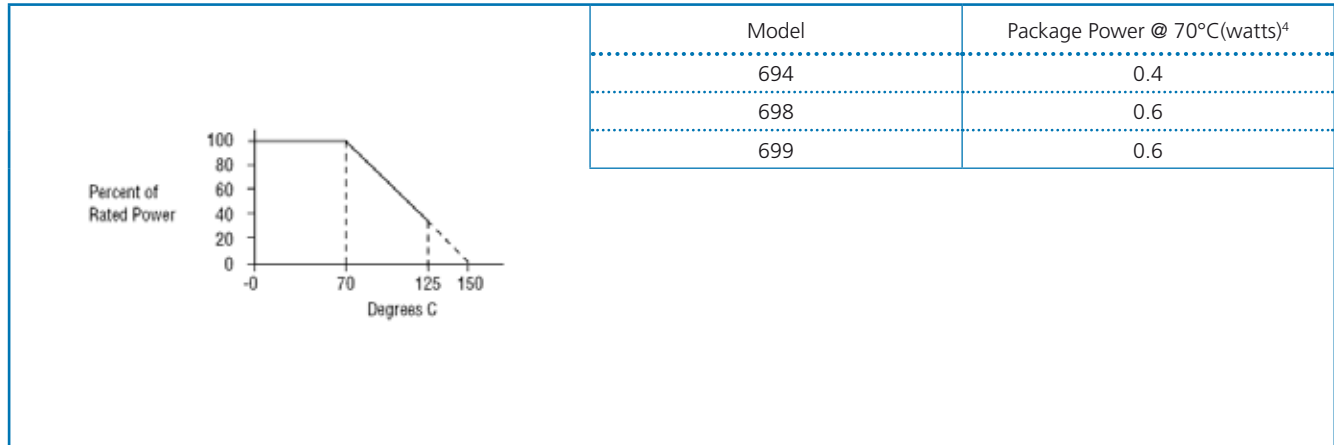
General Note

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



www.bitechnologies.com www.ircctt.com www.welwyn-tt.com

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	200V for 1 minute
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

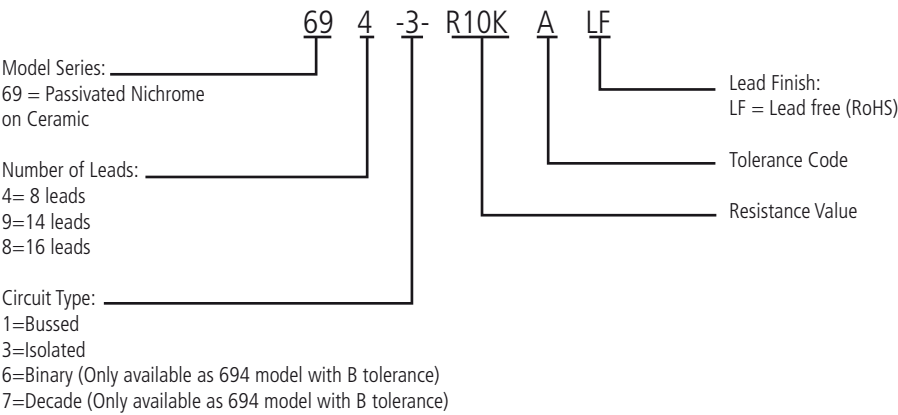
Lead Plating	100 matte Tin (RoHS)
Lead Material	Copper Alloy
Lead Configuration	Thru hole
Substrate Material	Alumina
Resistor Material	Passivated Nichrome
Body Material	Molded Epoxy

⁴ Maximum power per resistor @ 70°C is 100 mW, not to exceed package power

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Ordering Information⁵



Resistance Code⁵

Standard values follow E96 table. Character “K” denotes a multiplier of 1000.

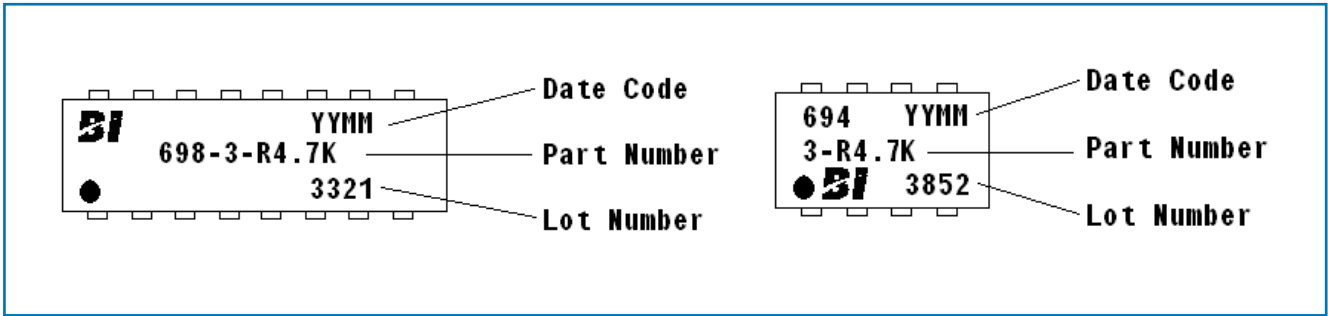
Resistance Tolerance Code

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

Packaging Options (Unit Count/Tube)

Model + Pin count	
694	100
699	50
698	50

Typical Marking



⁵ Consult customer service for custom designs and features.

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