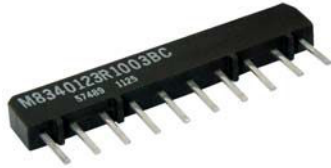


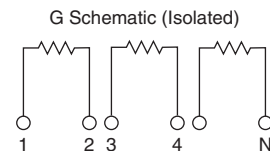
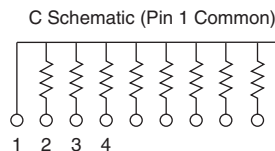
Thin Film Resistor Network Military, MIL-PRF-83401 Qualified, Type RZ070, RZ080, RZ090, RZ210, RZ220, RZ230, Single-In-Line SIP



Qualified to meet MIL-PRF-83401 characteristic “R”, “V”, and “H”

These resistor networks are available in 6 pins, 8 pins, and 10 pins in schematic C and G styles. Custom circuits are not available. Schematic C and G only. They incorporate Vishay Dale Thin Film’s patented passivated nichrome film to give superior performance on temperature coefficient of resistance, thermal stability, noise, voltage coefficient, power handling and resistance stability. The leads are attached to the metallized alumina substrates by Thermo-Compression bonding. The body is molded thermoset plastic with gold plated copper alloy leads. This product will outperform all of the requirements of characteristic “R”, “V”, and “H” of MIL-PRF-83401.

SCHEMATIC



FEATURES

- MIL-PRF-83401 qualified (cage code 57489)
- Low Profile 0.195" (4.95 mm seated height)
- Characteristics R (± 25 ppm), H, V, K, and M
- Hot fused tin/lead 60/40 solder dipped
- Rugged molded low profile construction with standoff
- 100 % screened to groups A MIL-PRF-83410 testing
- Tolerances to 0.1 %
- Isolated and bussed (schematic C and G)

TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	5
	ABSOLUTE	RATIO
TOL.	0.1	0.1 to 0.05

STANDARD ELECTRICAL SPECIFICATIONS		
TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	6, 8, 10	-
Resistance Range	100 Ω to 200 k Ω per resistor	Tolerance dependent ⁽²⁾
TCR: Absolute	± 25 ppm/ $^{\circ}$ C to 300 ppm/ $^{\circ}$ C	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C ⁽¹⁾
TCR: Tracking	± 5 ppm/ $^{\circ}$ C	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C
Tolerance: Absolute	± 0.1 % to ± 5.0 %	+ 25 $^{\circ}$ C
Tolerance: Ratio	± 0.1 % to R ₁	+ 25 $^{\circ}$ C
Power Rating: Resistor	0.06 mW to 0.120 mW (per element typical at + 25 $^{\circ}$ C) ⁽¹⁾	Maximum at + 70 $^{\circ}$ C
Power Rating: Package	0.18 W to 1.08 W ⁽¹⁾	Maximum at + 70 $^{\circ}$ C
Stability: Absolute	$\Delta R \pm 0.05$ %	2000 h at + 70 $^{\circ}$ C
Stability: Ratio	$\Delta R \pm 0.015$ %	2000 h at + 70 $^{\circ}$ C
Voltage Coefficient	< 0.1 ppm/V	-
Working Voltage	100 V	-
Operating Temperature Range	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	-
Storage Temperature Range	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	-
Noise	< - 30 dB	-
Thermal EMF	< 0.08 μ V/ $^{\circ}$ C	-
Shelf Life Stability: Absolute	$\Delta R \pm 0.01$ %	1 year at + 25 $^{\circ}$ C
Shelf Life Stability: Ratio	$\Delta R \pm 0.002$ %	1 year at + 25 $^{\circ}$ C

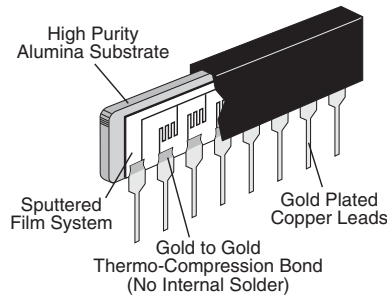
Notes

⁽¹⁾ Consult MIL-PRF-83401

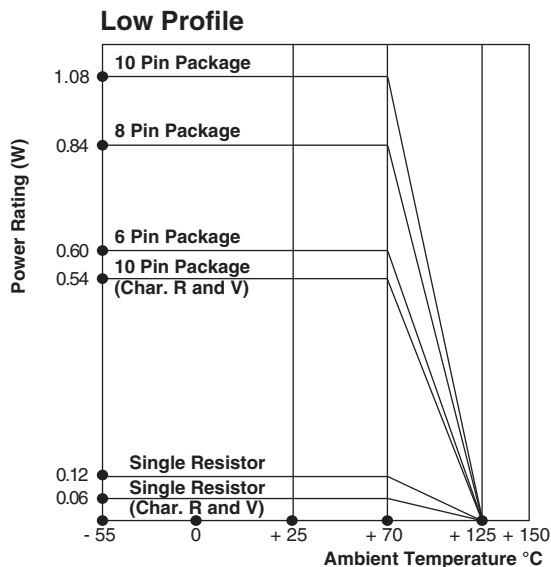
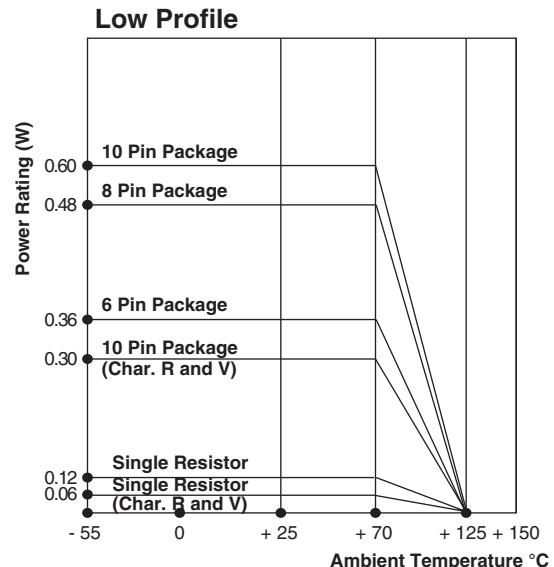
- ⁽²⁾ “H” characteristic 100 Ω to 100 k Ω resistance range at 0.1% best
 “R” characteristic 250 Ω to 100 k Ω resistance range at 0.1% best
 “R” characteristic 250 Ω to 200 k Ω resistance range at 1% best

DIMENSIONS AND IMPRINTING in inches and millimeters

DIMENSION	INCHES	MILLIMETERS
A	0.035	0.89
B	0.040	1.02
C	0.100 ± 0.005 non-accum.	2.54 ± 0.13
D	0.019 ± 0.006 typical	0.48 ± 0.15
E	0.187 ± 0.010	4.75 ± 0.25
F	0.135	3.43
G	0.095	2.41
H	0.012 ± 0.004	0.31 ± 0.10
L (6 Pins)	0.583 - 0.023/+ 0.01	14.81 - 0.584/+ 0.254
L (8 Pins)	0.783 - 0.023/+ 0.01	19.89 - 0.584/+ 0.254
L (10 Pins)	0.983 - 0.023/+ 0.01	24.97 - 0.584/+ 0.254

CONSTRUCTION

MECHANICAL SPECIFICATIONS

Resistive Element	TAMELOX passivated nichrome
Substrate Material	Alumina
Body Molded	Epoxy
Terminals	Copper alloy
Plating/Solder	Nickel/gold/Sn63 fussed

POWER DERATING
C Schematic (Pin 1 Common Characteristic H)

G Schematic (Isolated Characteristic H)




GLOBAL PART NUMBER INFORMATION																	
New Global Part Numbering: M8340107H1000BCUF																	
M	8	3	4	0	1	0	7	H	1	0	0	0	B	C	U	F	V
MODEL (5 digits)	SCHEMATIC (2 digits)		CHARACTERISTIC (1 digit)		RESISTANCE (4 digits)			TOLERANCE (1 digit)		SCHEMATIC (1 digit)		PACKAGING (2 digits)		VENDOR (1 digit)			
M83401 Single in-line resistor network low profile C83401 Non burn in screened network	07 = 6 pin 08 = 8 pin 09 = 10 pin 21 = 6 pin ⁽¹⁾ 22 = 8 pin ⁽¹⁾ 23 = 10 pin ⁽¹⁾		H = 50 ppm/°C V = 50 ppm/°C 5 ppm/°C track R = 25 ppm/°C 5 ppm/°C track K = 100 ppm/°C M = 300 ppm/°C		First 3 digits are significant figures and the last digit specifies the number of zeros to follow. (100 Ω to 100 kΩ) Examples: 1000 = 100 Ω 1001 = 1000 Ω			B = 0.1 % ⁽³⁾ D = 0.5 % ⁽³⁾ F = 1 % G = 2 % J = 5 %		C = Pin 1 common G = Isolated resistors		UF = Tubed UI = 100 min., 1 mult (item single lot date code) UP = 100 min., 1 mult (package unit single lot date)		V ⁽²⁾ = Vishay Dale Thin Film			

Notes

- (1) No internal solder
- (2) "V" is not required for characteristics R, H, and V, it is only required for K and M. Characteristics tolerance equal to or greater than 1 %."
- (3) "H" characteristic 100 Ω to 100 kΩ resistance range at 0.1% best
"R" characteristic 250 Ω to 100 kΩ resistance range at 0.1% best
"R" characteristic 250 Ω to 200 kΩ resistance range at 1% best

MODEL	SCHEMATIC	CHARACTERISTIC	RESISTANCE RANGE	TOLERANCE	SCHEMATIC
M83401 C83401	07 = 6 pin (RZ070) 08 = 8 pin (RZ080) 09 = 10 pin (RZ090) 21 = 6 pin (RZ210) 22 = 8 pin (RZ220) 23 = 10 pin (RZ230)	H = 50 ppm/°C	100 to 100K	B, D, F, G, J	C, G
		V = 50 ppm/°C/ 5 ppm/°C track	250 to 100K	B, D, F, G, J	
			250 to 200K	F, G, J	
		R = 25 ppm/°C 5 ppm/°C track	250 to 100K	B, D, F, G, J	
			250 to 200K	F, G, J	
		K = 100 ppm/°C	100 to 100K	B, D, F, G, J	
M = 300 ppm/°C					



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.