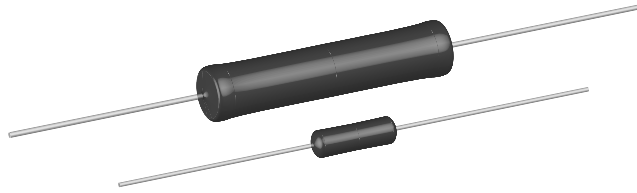


## Wirewound Resistors, Military, MIL-PRF-26 Qualified, Type RW, Precision Power, Silicone Coated



### FEATURES

- From 1.4 to 4 times higher power ratings than conventional resistors of equivalent size
- High temperature coating (> 350 °C)
- Complete welded construction
- Meets applicable requirements of MIL-PRF-26
- Available in non-inductive styles (type GN) with Aryton-Perry winding for lowest reactive components
- Excellent stability in operation (typical resistance shift < 0.5 %)
- Lead (Pb)-free version is RoHS compliant



**RoHS\***  
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS									
GLOBAL MODEL	HIST. MODEL	MIL-PRF-26 TYPE	POWER RATING <sup>(1)</sup> <i>P</i> <sub>25 °C</sub> W		RESISTANCE RANGE MIL. RANGE SHOWN IN BOLD FACE Ω				WEIGHT (typical) g
			U ± 0.05 % thru ± 5 %	V ± 3 % thru ± 5 %	± 0.05 %	± 0.1 %	± 0.25 %	± 0.5 %, ± 1 %, ± 3 %, ± 5 %	
G001...80	G-1-80	-	1.0	-	1.0 - 1K	0.499 - 1K	0.499 - 3.4K	0.1 - 3.4K	0.20
G001...380	G-1-380	<b>RW81</b>	<b>1.0</b>	-	-	<b>0.499 - 1K</b>	<b>0.499 - 1K</b>	<b>0.1 - 1K</b>	<b>0.20</b>
G002	G-2	-	1.5	-	1.0 - 1.3K	0.499 - 1.3K	0.499 - 4.9K	0.1 - 4.9K	0.21
G003...80	G-3-80	-	2.0	-	1.0 - 2.74K	0.499 - 2.74K	0.499 - 10.4K	0.1 - 10.4K	0.34
G003...380	G-3-380	<b>RW80</b>	<b>2.0</b>	-	-	<b>0.499 - 2.74K</b>	<b>0.499 - 2.74K</b>	<b>0.1 - 2.74K</b>	<b>0.34</b>
G005	G-5	-	4.0	5.0	0.499 - 6.5K	0.499 - 6.5K	0.1 - 24.5K	0.1 - 24.5K	0.80
G05C	G-5C	-	5.0	7.0	0.499 - 8.6K	0.499 - 8.6K	0.1 - 32.3K	0.1 - 32.3K	1.20
G010	G-10	-	7.0	10.0	0.499 - 25.7K	0.499 - 25.7K	0.1 - 95.2K	0.1 - 95.2K	3.60

**Notes**

<sup>(1)</sup> Vishay Dale G models have two power ratings, depending on operation temperature and stability requirements

- Shaded area indicates most popular models

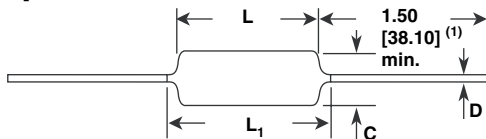
TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	G RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 90 for below 1 Ω, ± 50 for 1 Ω to 9.9 Ω, ± 20 for 10 Ω and above
Dielectric Withstanding Voltage	V <sub>AC</sub>	500 minimum for G-1-80 thru G-3-380, 1000 minimum for all others
Short Time Overload	-	5 x rated power for 5 s for G-1-80 thru G-5C (Characteristic U), 10 x rated power for 5 s for G-10
Maximum Working Voltage	V	( <i>P x R</i> ) <sup>1/2</sup>
Insulation Resistance	W	1000 MΩ minimum dry, 100 MΩ minimum after moisture test
Terminal Strength	lb	5 minimum for G-1-80 thru G-3-380, 10 minimum for all others
Solderability	-	MIL-PRF-26 type - meets requirements of ANSI J-STD-002 Non Mil type - terminals are 60/40 electro tin plated to facilitate soldering
Operating Temperature Range	°C	Characteristic U = - 65 to + 250, characteristic V = - 65 to + 350
Power Rating	-	Characteristic U - + 250 °C max. hot spot temperature, ± 0.5 % max. Δ <i>R</i> in 2000 h load life Characteristic V - + 350 °C max. hot spot temperature, ± 3.0 % max. Δ <i>R</i> in 2000 h load life

GLOBAL PART NUMBER INFORMATION															
New Global Part Numbering: G00310R00FS7080 (preferred part number format)															
G	0	0	3	1	0	R	0	0	F	S	7	0	8	0	
GLOBAL MODEL (See Standard Electrical Specifications Global Model column for options)	RESISTANCE VALUE R = Decimal K = Thousand 15R00 = 15 Ω 10K00 = 10 kΩ	TOLERANCE CODE A = 0.05 % B = 0.1 % C = 0.25 % D = 0.5 % F = 1.0 % J = 5.0 % K = 10.0 %	PACKAGING E70 = Lead (Pb)-free, tape/reel (smaller than G010) E73 = Lead (Pb)-free, Tape/Reel (G010 and larger) E12 = Lead (Pb)-free, bulk <b>Lead (Pb)-free is not available on RW military type</b> S70 = Tin/lead, tape/reel (smaller than G010) S73 = Tin/lead, tape/reel (G010 and larger) B12 = Tin/lead, bulk				SPECIAL (Dash Number) (up to 3 digits) From 1 - 999 as applicable								
Historical Part Number Example: G-3-80 10 Ω 1 % S70 (will continue to be accepted)															
G-3-80	10 Ω	1 %	S70												
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING												

\* Pb containing terminations are not RoHS compliant, exemptions may apply



**DIMENSIONS** in inches [millimeters]



GLOBAL MODEL	DIMENSIONS in inches [millimeters]			
	L	L <sub>1 max.</sub> (2)	C	D
G-1-80 G-1-380	0.250 ± 0.031 [6.35 ± 0.787]	0.281 [7.14]	0.085 ± 0.020 [2.16 ± 0.508]	0.020 ± 0.002 [0.508 ± 0.051]
G2	0.312 ± 0.016 [7.92 ± 0.406]	0.328 [8.33]	0.078 + 0.016 - 0.031 [1.98 + 0.406 - 0.787]	0.020 ± 0.002 [0.508 ± 0.051]
G-3-80 G-3-380	0.406 ± 0.031 [10.31 ± 0.787]	0.437 [11.10]	0.094 ± 0.031 [2.39 ± 0.787]	0.020 ± 0.002 [0.508 ± 0.051]
G-5	0.562 ± 0.062 [14.27 ± 1.57]	0.622 [15.80]	0.188 ± 0.032 [4.78 ± 0.813]	0.032 ± 0.002 [0.813 ± 0.051]
G-5C	0.500 ± 0.062 [12.70 ± 1.57]	0.593 [15.06]	0.218 ± 0.032 [5.54 ± 0.813]	0.040 ± 0.002 [1.02 ± 0.051]
G-10	0.875 ± 0.062 [22.23 ± 1.57]	1.0 [25.4]	0.312 ± 0.032 [7.92 ± 0.813]	0.040 ± 0.002 [1.02 ± 0.051]

**Notes**

(1) On some standard reel pack methods, the leads may be trimmed to a shorter length than shown

(2) L<sub>1 max.</sub> dimension is clean lead to clean lead

**MATERIAL SPECIFICATIONS**

**Element:** Copper-nickel alloy or nickel-chrome alloy, depending on resistance value

**Core:** Ceramic, beryllium oxide or alumina, depending on resistor model

**Coating:** Special high temperature silicone

**Standard Terminals:** 100 % Sn, or 60/40 Sn/Pb coated Copperweld®

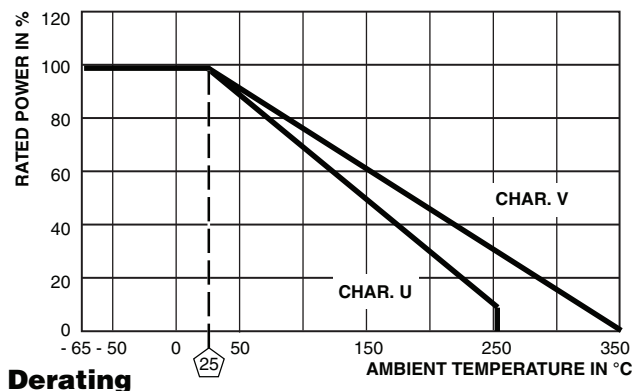
**End Caps:** Stainless steel

**Part Marking:** DALE, model, wattage (1), value, tolerance, date code

**Notes**

(1) Wattage marked on part will be "U" characteristic

- Military (RW) parts are only available with 60/40 Sn/Pb finish



**Derating**

**GN NON-INDUCTIVE**

Models of equivalent physical and electrical specifications are available with non-inductive (Aryton-Perry) winding. They are identified by inserting the letter N after G in the model number (GN-5, for example). Two conditions apply:

1. For GN models, divide maximum resistance values by two
2. Body O.D. on GN-5C may exceed that of the G-5C by 0.010"

**TERMINATION**

When G resistors will be operated at full rated power, resistance welding or high temperature solder are the recommended termination methods. Termination should be made within 1/2" from end of resistor body.

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS (CHARACTERISTIC U)
Thermal Shock	Rated power applied until thermally stable, then a min. of 15 min at - 55 °C	± (0.2 % + 0.05 Ω) ΔR
Short Time Overload	5 x power (G-1-80 thru G-5C), 10 x power (G-10) for 5 s	± (0.2 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V <sub>rms</sub> , 1 min	± (0.1 % + 0.05 Ω) ΔR
Low Temperature Storage	- 65 °C for 24 h	± (0.2 % + 0.05 Ω) ΔR
High Temperature Exposure	250 h at + 250 °C (Characteristic U)	± (0.5 % + 0.05 Ω) ΔR
Moisture Resistance	MIL-STD-202 Method 106, 7b not applicable	± (0.2 % + 0.05 Ω) ΔR
Shock, Specified Pulse	MIL-STD-202 Method 213, 100 g's for 6 ms, 10 shocks	± (0.1 % + 0.05 Ω) ΔR
Vibration, High Frequency	Frequency varied 10 to 2000 Hz, 20 g peak, 2 directions 6 h each	± (0.1 % + 0.05 Ω) ΔR
Load Life	2000 h at rated power, + 25 °C, 1.5 h "ON", 0.5 h "OFF"	± (0.5 % + 0.05 Ω) ΔR
Terminal Strength	5 to 10 s, 5 or 10 lb pull test (depending on size), torsion test - 3 alternating directions, 360° each	± (0.1 % + 0.05 Ω) ΔR



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