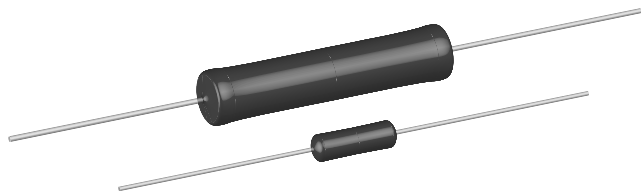


Wirewound Resistors, Military, MIL-PRF-26 Qualified, Type RW, Precision Power, Silicone Coated



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**** P _{25 °C} W		RESISTANCE RANGE MIL. RANGE SHOWN IN BOLD FACE Ω				WEIGHT (Typical) g
			U ± 0.05 % thru ± 5 %	V ± 3 % & ± 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	RW81	1.0	-	-	0.499 - 1K	0.499 - 1K	0.1 - 1K	0.20
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	RW80	2.0	-	-	0.499 - 2.74K	0.499 - 2.74K	0.1 - 2.74K	0.34
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

** Vishay Dale G models have two power ratings, depending on operation temperature and stability requirements.

NOTE: 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 _{AC}	500 minimum for G-1-80 thru G-3-380, 1000 minimum for all others
Short Time Overload	-	5 × rated power for 5 sec. for G-1-80 thru G-5C (Characteristic U), 10 × rated power for 5 sec. for G-10
Maximum Working Voltage	V	(P × R) ^{1/2}
Insulation Resistance	W	1000 Megohm minimum dry, 100 Megohm 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/+ 250, Characteristic V = - 65/+ 350
Power Rating	-	Characteristic U - + 250 °C max. hot spot temperature, ± 0.5 % max. ΔR in 2000 hr. load life Characteristic V - + 350 °C max. hot spot temperature, ± 3.0 % max. ΔR in 2000 hr. 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

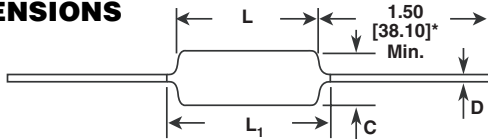
GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
(See Standard Electrical Specifications Global Model column for options)	R = Decimal K = Thousand 15R00 = 15 Ω 10K00 = 10 kΩ	A = 0.05 % B = 0.1 % C = 0.25 % D = 0.5 % F = 1.0 % J = 5.0 % K = 10.0 %	E70 = Lead (Pb)-free, Tape/Reel (smaller than G010) E73 = Lead (Pb)-free, Tape/Reel (G010 & larger) E12 = Lead (Pb)-free, Bulk Lead (Pb)-free is not available on RW military type S70 = Tin/Lead, Tape/Reel (smaller than G010) S73 = Tin/Lead, Tape/Reel (G010 & larger) B12 = Tin/Lead, Bulk	(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



* On some standard reel pack methods, the leads may be trimmed to a shorter length than shown.

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

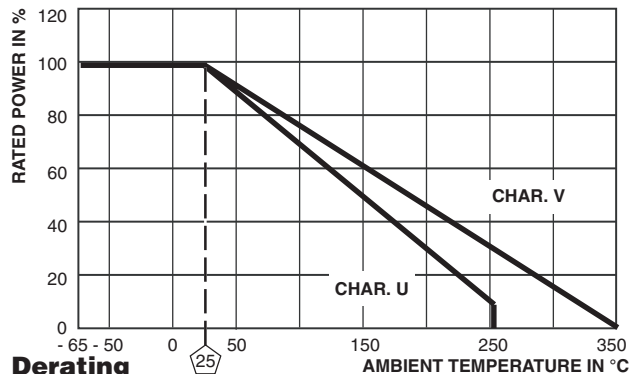
Standard Terminals: 100 % Sn, or 60/40 Sn/Pb coated Copperweld®

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

End Caps: Stainless steel

Part Marking: DALE, Model, Wattage*, Value, Tolerance, Date Code

* Wattage marked on part will be "U" characteristic



Derating

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

** L₁ (Max.) dimension is clean lead to clean lead.

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 inch 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 minutes 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 sec.	± (0.2 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V _{rms} , one minute	± (0.1 % + 0.05 Ω) ΔR
Low Temperature Storage	- 65 °C for 24 hours	± (0.2 % + 0.05 Ω) ΔR
High Temperature Exposure	250 hours 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 milliseconds, 10 shocks	± (0.1 % + 0.05 Ω) ΔR
Vibration, High Frequency	Frequency varied 10 to 2000 Hz, 20 g peak, 2 directions 6 hours each	± (0.1 % + 0.05 Ω) ΔR
Load Life	2000 hours at rated power, + 25 °C, 1.5 hours "ON", 0.5 hours "OFF"	± (0.5 % + 0.05 Ω) ΔR
Terminal Strength	5 to 10 sec., 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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