RE Military



Vishay Dale

Wirewound Resistors, Military, MIL-PRF-18546 Qualified, Type RE, Aluminum Housed, Chassis Mount

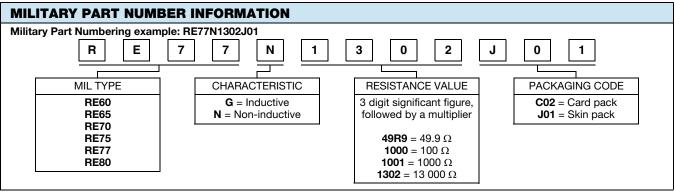


FEATURES

- Molded construction for total environmental protection
- Complete welded construction
- Qualified to MIL-PRF-18546
- Available in non-inductive styles (type N) with Ayrton-Perry winding for lowest reactive components
- Mounts on chassis to utilize heat-sink effect
- Excellent stability in operation (< 1 % change in resistance)

STANDARD ELECTRICAL SPECIFICATIONS							
MILITARY MODEL	VISHAY REFERENCE MODEL	POWER RATING P _{25 °C} W	$\begin{array}{c} \textbf{RESISTANCE RANGE} \\ \Omega \end{array}$	TOLERANCE ± %	WEIGHT (typical) g		
RE60G	RH005	5	0.10 to 3.32K	1	3		
RE60N	NH005	5	1.0 to 1.65K	1	3.3		
RE65G	RH010	10	0.10 to 5.62K	1	6		
RE65N	NH010	10	1.0 to 2.8K	1	8.8		
RE70G	RH025	20	0.10 to 12.1K	1	13		
RE70N	NH025	20	1.0 to 6.04K	1	16.5		
RE75G	RH050	30	0.10 to 39.2K	1	28		
RE75N	NH050	30	1.0 to 19.6K	1	35		
RE77G	RH100	75	0.05 to 29.4K	1	350		
RE77N	NH100	75	1.0 to 14.7K	1	385		
RE80G	RH250	120	0.10 to 35.7K	1	630		
RE80N	NH250	120	1.0 to 17.4K	1	690		

TECHNICAL SPECIFICATIONS						
PARAMETER	UNIT	RE RESISTOR CHARACTERISTICS				
Temperature Coefficient	ppm/°C	\pm 20 for 10 Ω and above; \pm 50 for 1 Ω to 9.9 $\Omega;$ \pm 100 for 0.1 Ω to 0.99 Ω				
Maximum Working Voltage	V	(P x R) ^{1/2}				
Insulation Resistance	Ω	10 000 M Ω minimum dry, 1000 M Ω minimum after moisture test				
Solderability	-	MIL-PRF-18546 type - meets requirements of ANSI J-STD-002				
Operating Temperature Range	°C	-55 to +250				



Note

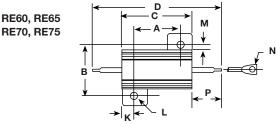
• Only tolerance available for RE type is $\pm 1 \%$

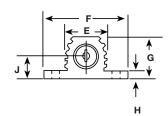
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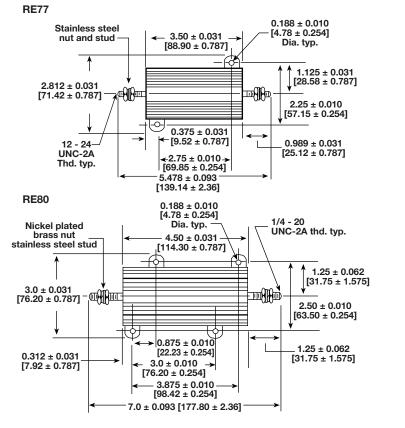
DIMENSIONS in inches [millimeters]

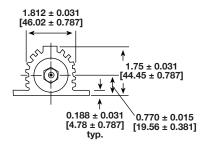


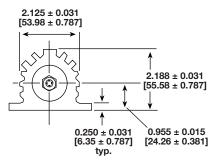


MILITARY	DIMENSIONS in inches [millimeters]													
MODEL	Α	В	С	D	E	F	G	Н	J	К	L	м	N	Р
RE60	0.444 ± 0.005 [11.28 ± 0.127]	0.490 ± 0.005 [12.45 ± 0.127]	[15.24	1.125 ± 0.062 [28.58 ± 1.57]	[8.48	0.646 ± 0.015 [16.41 ± 0.381]	0.320 ± 0.015 [8.13 ± 0.381]	[1.65	[3.38	0.078 ± 0.010 [1.98 ± 0.254]	0.093 ± 0.005 [2.36 ± 0.127]	0.078 ± 0.015 [1.98 ± 0.381]	0.050 ± 0.005 [1.27 ± 0.127]	[6.76
RE65	0.562 ± 0.005 [14.27 ± 0.127]	[15.88	0.750 ± 0.031 [19.05 ± 0.787]	1.375 ± 0.062 [34.93 ± 1.57]	[10.67	0.800 ± 0.015 [20.32 ± 0.381]	0.390 ± 0.015 [9.91 ± 0.381]	[1.91	[4.19	0.093 ± 0.010 [2.36 ± 0.254]	0.094 ± 0.005 [2.39 ± 0.127]	0.102 ± 0.015 [2.59 ± 0.381]	0.085 ± 0.005 [2.16 ± 0.127]	[7.92
RE70	0.719 ± 0.005 [18.26 ± 0.127]	0.781 ± 0.005 [19.84 ± 0.127]	1.062 ± 0.031 [26.97 ± 0.787]	[49.23	-	1.080 ± 0.015 [27.43 ± 0.381]	[13.87	[1.91	[5.87	0.172 ± 0.010 [4.37 ± 0.254]	0.125 ± 0.005 [3.18 ± 0.127]	0.115 ± 0.015 [2.92 ± 0.381]	0.085 ± 0.005 [2.16 ± 0.127]	[11.13
RE75	1.562 ± 0.005 [39.67 ± 0.127]	[21.44	1.968 ± 0.031 [49.99 ± 0.787]	2.781 ± 0.062 [70.64 ± 1.57]	[16.00	1.140 ± 0.015 [28.96 ± 0.381]	[15.49	[2.24	[6.60	0.196 ± 0.010 [4.98 ± 0.254]	0.125 ± 0.005 [3.18 ± 0.127]	0.107 ± 0.015 [2.72 ± 0.381]	[2.16	[11.13

DIMENSIONS in inches [millimeters]







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Document Number: 30282

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POWER RATING

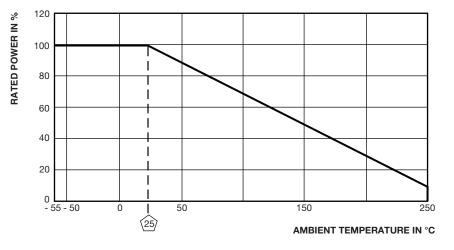
Vishay RE resistor wattage ratings are based on mounting to the following heat sink:

RE60 and RE65:	4" x 6" x 2" x 0.040" thick aluminum chassis
RE70 and RE75:	5" x 7" x 2" x 0.040" thick aluminum chassis
RE77 and RE80:	7" x 9" x 2" x 0.060" thick aluminum chassis

FREE AIR POWER RATING							
MILITARY MODEL	RE60	RE65	RE70	RE75	RE77	RE80	
W at 25 °C	3	6	8	10	30	75	

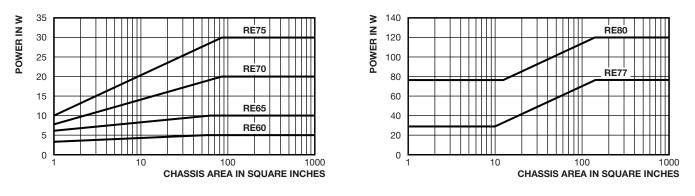
AMBIENT TEMPERATURE DERATING

Derating is required for ambient temperatures above 25 °C when mounted to specified heat sink, see the following graph.



REDUCED HEAT SINK DERATING

Derating is also required when recommended heat sink area is reduced.



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MATERIAL SPECIFICATIONS

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

Core: ceramic, steatite or alumina, depending on physical size

Encapsulant: silicone molded construction

Housing: aluminum with hard anodic coating

End Caps: stainless steel

Standard Terminals: For RE77 and RE80 terminals are threaded stainless steel. All others are 60/40 tin/lead (Sn/Pb) w/Nickel underplate on copper clad steel core terminal.

Part Marking: Dale, model, wattage, value, tolerance, date code

NON-INDUCTIVE (TYPE N)

Models of equivalent physical and electrical specifications are available with non-inductive (Ayrton-Perry) winding. They are identified by substituting the letter N for G in the model number (RE60N, for example).

PERFORMANCE							
TEST	CONDITIONS OF TEST	TEST LIMITS					
Thermal Shock	Rated power applied until thermally stable, then a minimum of 15 min at -55 °C	± (0.5 % + 0.05 Ω) Δ <i>R</i>					
Short Time Overload	5x rated power for 5 s	± (0.5 % + 0.05 Ω) Δ <i>R</i>					
Dielectric Withstanding Voltage	1000 V_{RMS} for RE60, RE65 and RE70; 2000 V_{RMS} for RE75; 4500 V_{RMS} for RE77 and RE80; duration 1 min	± (0.2 % + 0.05 Ω) ΔR					
Temperature	250 °C for 2 h	± (0.5 % + 0.05 Ω) Δ <i>R</i>					
Moisture Resistance	MIL-STD-202 Method 106, 7b not applicable	± (1.0 % + 0.05 Ω) Δ <i>R</i>					
Shock, Specified Pulse	MIL-STD-202 Method 213, 100 g's for 6 ms, 10 shocks	± (0.2 % + 0.05 Ω) Δ <i>R</i>					
Vibration, High Frequency	Frequency varied 10 Hz to 2000 Hz, 20 g peak, 2 directions 6 h each	± (0.2 % + 0.05 Ω) Δ <i>R</i>					
Load Life	1000 h at rated power, +25 °C, 1.5 h "ON", 0.5 h "OFF"	± (1.0 % + 0.05 Ω) Δ <i>R</i>					
Terminal Strength	30 s, 5 pound pull test for RE60 and RE65, 10 pound pull test for other sizes; torque test - 24 pound inch for RE77 and 32 pound inch for RE80	± (0.2 % + 0.05 Ω) Δ <i>R</i>					

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RE60G2500C02 RE65G1000C02 RE65G12R0C02 RE75G15R0C02 RE75GR200C02 RE70G1100C02	2							
RE70G70R0 RE65G25R0C02 RE75G42R2C02 RE77G9761J01 RE60G1R20C02 RE75N2R00C02								
<u>RE70G60R0C02</u> <u>RE60G50R0C02</u> <u>RE70G2401C02</u> <u>RE75N1000C02</u> <u>RE70G8R00C02</u> <u>RE60G2000C02</u>								
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