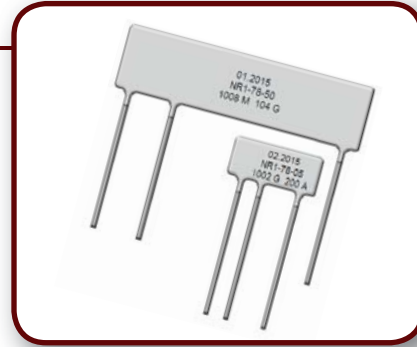


# NR1-78

## HIGH-VOLTAGE DIVIDER

### FEATURES

- 40000 V capability
- Ratio tolerance to 0.05 %



### GENERAL SPECIFICATIONS

Operating Temp. Range	-60 °C to 125 °C
Load Life 70 °C/ 1000 h	3 %
Max. Ratio Change at Rated Dissipation after 1000 h for 0.5 % ratio tol. 2 % after 1000 h for <0.5 % ratio tol. 0.5 % after 30000 h for 0.5 % ratio tol. 5 % after 30000 h for <0.5 % ratio tol.	3 %
Package	Leaded
Substrate Material	96 % Al <sub>2</sub> O <sub>3</sub>
Coating	Epoxy
Termination Finish	Sn-Pb

Part Number	Power (W)	Max. Working Voltage (V)	Resistance Total Value <sup>1</sup> (Ohms)	Resistance Tolerance (± %)	Ratio	Ratio Tolerance (± %)	Ratio Temperature Coefficient (ppm/°C)
NR1-78-05	0.5	10000	10K, 100K 100K, 1M, 10M, 100M, 1G, 10G 1M, 10M, 100M, 1G, 10G	5, 2, 1	20:1, 10:1 2K:1, 1K:1, 200:1, 100:1 10K:1	0.2, 0.1, 0.05 0.5 0.5	±(250,100,50,25) <sup>2</sup>
NR1-78-10	1	20000	10K, 100K 100K, 1M, 10M, 100M, 1G, 10G 1M, 10M, 100M, 1G, 10G	5, 2, 1	20:1, 10:1 2K:1, 1K:1, 200:1, 100:1 10K:1	0.2, 0.1, 0.05 0.5 0.5	±(250,100,50,25) <sup>2</sup>
NR1-78-30	3	30000	10K, 100K 100K, 1M, 10M, 100M, 1G, 10G 1M, 10M, 100M, 1G, 10G	5, 2, 1	20:1, 10:1 2K:1, 1K:1, 200:1, 100:1 10K:1	0.2, 0.1, 0.05 0.5 0.5	±(250,100,50,25) <sup>2</sup>
NR1-78-50	5	40000	10K, 100K, 1M, 10M, 100M, 1G, 10G 100K, 1M, 10M, 100M, 1G, 10G 1M, 10M, 100M, 1G, 10G 10M, 100M, 1G, 10G	5, 2, 1	200:1, 100:1, 20:1, 10:1 2K:1, 1K:1 20K:1, 10K:1 100K:1	0.5 0.5 0.5 0.5	±(250,100,50,25) <sup>2</sup>

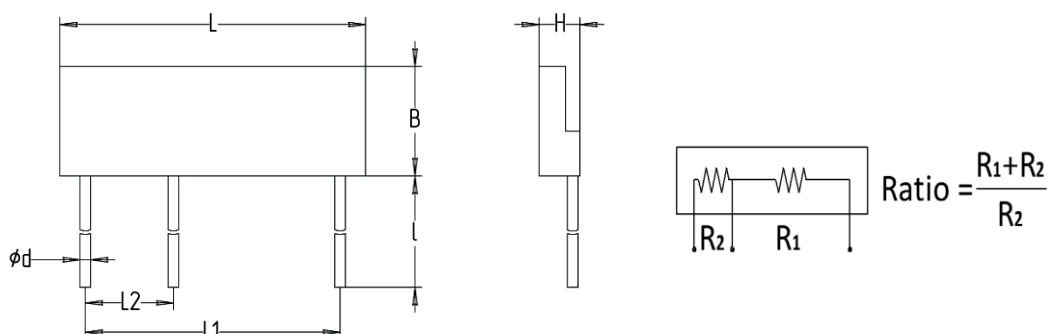
(1) >1M measured at 100 V

(2) ±250 ppm/°C for ±0.2 % ratio tolerance; ±100 ppm/°C for ±0.1 % ratio tolerance; ±50 ppm/°C, ±25 ppm/°C for ±0.05 % ratio tolerance

**NR** *new resistance*  
precision without limits

# NR1-78

## HIGH-VOLTAGE DIVIDER



### DIMENSIONS

Part Number	Dimensions (mm)							Mass (g)
	L	B	H	L1	L2	l	Ød	
NR1-78-05	25+3	8+3	2.5±0.5	23.0±0.5	5.0±0.5	35±1	0.8±0.1	2.0
NR1-78-10	38+3	13+3	2.5±0.5	36.0±0.5	8.0±0.5	35±1	0.8±0.1	3.5
NR1-78-30	51+3	15+3	2.5±0.5	49.0±0.5	10.0±0.5	35±1	0.8±0.1	5.0
NR1-78-50	76+3	15+3	2.5±0.5	74.0±0.5	10.0±0.5	35±1	0.8±0.1	6.0

### PERFORMANCE CHARACTERISTICS

Part Number	Dimensions (mm)							Mass (g)
	L	B	H	L1	L2	l	Ød	
Robustness of termination	IEC60115-1 (4.16)/ IEC 60068-2-21 Bending; Tensile						± 5 %	
Solderability	IEC60115-1 (4.17)/ IEC 60068-2-20 (235±5) °C; 2 s; solder bath method; SnPb40						Good tinning (>95 % covered, no visible damage)	
Resistance to soldering heat	IEC60115-1 (4.18.2)/ IEC 60068-2-20 (260±5) °C; (5±1) solder bath method; SnPb40						± 5 %; no visible damage	
Rapid change of temperature	IEC60115-1 (4.19)/ IEC 60068-2-14 30 min at -60 °C; 30 min at 125 °C; 5 cycles						± 5 %	
Vibration	IEC60115-1 (4.22)/ IEC 60068-2-6 34 sweep cycles per direction; 100 Hz to 2000 Hz; 50 m/s <sup>2</sup>						± 5 %	
Damp heat, steady state	IEC60115-1 (4.24)/ IEC 60068-2-78 (40±2) °C; 21 days; (93±3) % RH						± 20 %	

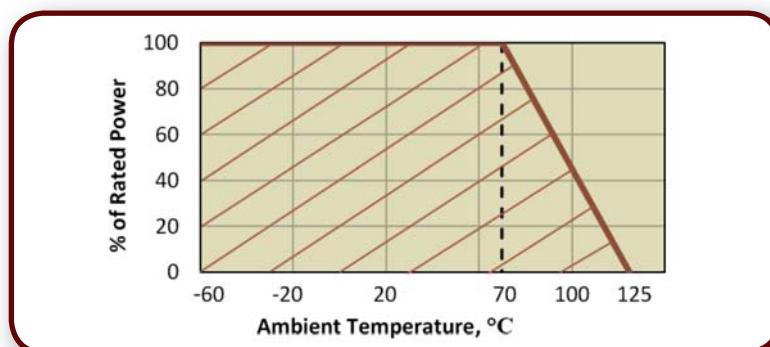
All tests are carried out in accordance with the following specifications:

- IEC 60115-1 (clause),
- IEC 60068-2-xx (test method).

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## HIGH-VOLTAGE DIVIDER



### MARKING

Total Value	Marking	Ratio	Marking
10K	1002	10:1	100
100K	1003	20:1	201
1M	1004	100:1	101
10M	1005	1K:1	102
100M	1006	10K:1	103
1G	1007	100K:1	104
10G	1008		

### PACKAGING

Carton box.

### MOUNTING PROCEDURE

Can be used only in manual assembly technique.

### PART NUMBER

Example: NR1-78 05 1300G 200A

NR1-78	05	1003	G	200	A
Model	Power	Value	Tolerance	Ratio	Ratio Tolerance
	05 = 0.5 W 10 = 1 W 30 = 3 W 50 = 5 W	1002 = 10K 1008 = 10G	G = 2 % F = 1 % J = 5 % K = 10 %	100 = 10:1 200 = 20:1 104 = 100K:1	A = 0.05 % B = 0.1 % C = 0.2 % D = 0.5 %

**NR** *new resistance*  
precision without limits