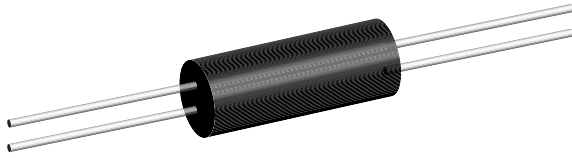


## Wirewound Resistors, Molded Style, Current Shunts, Very Low Value, Four Terminal


**FEATURES**

- Molded four-terminal resistors for specialized applications
- Extremely low resistance values for current sensing applications
- Precision resistance tolerance
- Low temperature coefficients
- Complete welded construction



STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING <sup>(1)</sup> $P_{25\text{ }^\circ\text{C}}$ W	RESISTANCE RANGE $\Omega$	TOLERANCE $\pm$ %	WEIGHT (typical) g
SPU050	SPU-50	1	0.001 to 0.060	1	2.5
SPU051	SPU-51	2	0.001 to 0.060	1	3.7
SPU052	SPU-52	4	0.001 to 0.200	1	4.8
SPU053	SPU-53	5	0.010 to 0.500	1	10.8

**Notes**

- Standard resistance tolerances available are 0.5 %, 1.0 %, 3.0 %, and 5.0 %.
- <sup>(1)</sup> Wattage rating is limited to 25 A maximum

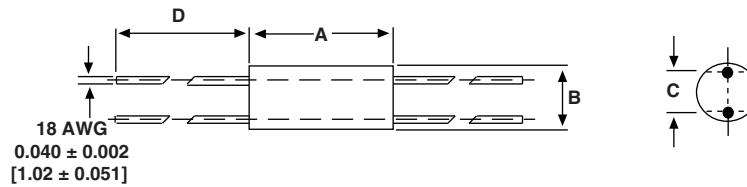
TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	SPU MOLDED STYLE RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/ $^\circ\text{C}$	$\pm 100$ (- 10 $^\circ\text{C}$ to + 80 $^\circ\text{C}$ )
Dielectric Withstanding Voltage	$V_{AC}$	500 minimum
Short Time Overload	-	5 x power for 5 s, limited to 25 A maximum
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Insulation Resistance	$\Omega$	10 000 M $\Omega$ minimum dry
Operating Temperature Range	$^\circ\text{C}$	SPU050 and SPU051 = - 55 to + 175, SPU052 and SPU053 = - 55 to + 275

GLOBAL PART NUMBER INFORMATION				
Global Part Numbering example: SPU052R10000FD				
S	P	U	0	5
2	R	1	0	0
0	0	0	0	F
D				
GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
SPU050 SPU051 SPU052 SPU053	L = m $\Omega$ (below 0.01 $\Omega$ ) R = Decimal 5L0000 = 0.005 $\Omega$ R10000 = 0.10 $\Omega$	D = $\pm 0.5$ % F = $\pm 1.0$ % H = $\pm 3.0$ % J = $\pm 5.0$ %	E <sup>(2)</sup> = Lead (Pb)-free, bulk D = Tin/lead, bulk	(Dash Number) (up to 2 digits) From 1 to 99 as applicable
Historical Part Numbering example: SPU-52 0.1 $\Omega$ 1 % S51				
SPU-52	0.100 $\Omega$	1 %	S51	
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	

**Note**

- <sup>(2)</sup> Lead (Pb)-free termination

## DIMENSIONS in inches [millimeters]



GLOBAL MODEL	DIMENSIONS in inches [millimeters]			
	A	B	C	D
SPU050	0.660 ± 0.010 [16.76 ± 0.25]	0.312 ± 0.010 [7.92 ± 0.25]	0.200 ± 0.015 [5.08 ± 0.38]	1.000 + 0.25 - 0.125 [25.40 + 6.35 - 3.17]
SPU051	0.790 ± 0.010 [20.06 ± 0.25]	0.375 ± 0.010 [9.52 ± 0.25]	0.200 ± 0.015 [5.08 ± 0.38]	1.000 + 0.25 - 0.125 [25.40 + 6.35 - 3.17]
SPU052	1.000 ± 0.010 [25.40 ± 0.25]	0.375 ± 0.010 [9.52 ± 0.25]	0.125 ± 0.015 [3.17 ± 0.38]	1.000 minimum [25.40 minimum]
SPU053	1.870 ± 0.010 [47.50 ± 0.25]	0.437 ± 0.010 [11.10 ± 0.25]	0.125 ± 0.015 [3.17 ± 0.38]	1.000 minimum [25.40 minimum]

## MATERIAL SPECIFICATIONS

**Element:** Nickel-chromium alloy or copper-manganese alloy, depending on resistance value

**Molding Material:** SPU050/051 thermo-set epoxy  
SPU052/053 thermo-set silicone

**Standard Terminals:** SPU050/051: 100 % Sn or 60/40 Sn/Pb coated Copperweld®

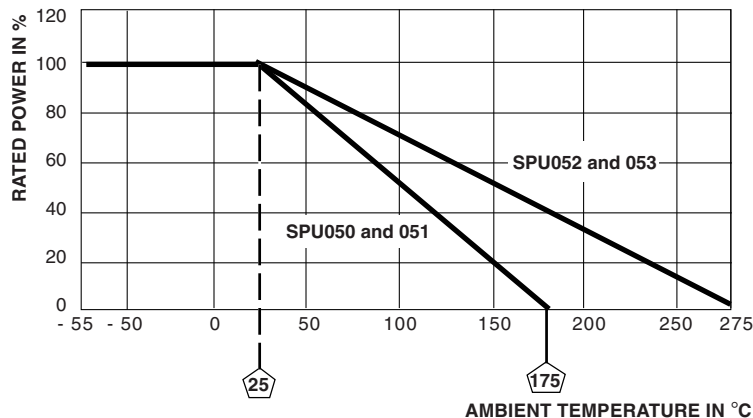
SPU052/053: 100 % Sn or 60/40 Sn/Pb coated copper

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

## AMBIENT TEMPERATURE DERATING

Derating is required for ambient temperature above 25 °C per the following graph

## DERATING





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