

AP725 20W TO-263 High Power Surface Mount Resistors



This novel surface mount power resistor in a TO263 style (D pak) will dissipate 20 watts subject to the case temperature being between, -55°C and +25°C. It can be soldered or clipped to the board



- Power Dissipation 20 watts with h/s 2.25 watts no h/s
- Value Range R01 – 51K
- Tolerance Options $\pm 1\%$ or $\pm 5\%$
- TCR Options $\pm 50 - 250\text{ppm}/^\circ\text{C}$ (re ohmic value)
- Maximum Voltage 500Vdc or $\sqrt{(P.R)}$
- Dielectric Strength 2000 Vdc
- Special Features The resistor will dissipate 20 watts subject to the case tab temperature being kept at 25°C max
RoHS Compliant

Characteristics

ITEMS	SPECIFICATION			TEST CONDITIONS
Power Rating	20 Watt			-55°C to +25°C Flange Temperature
	2.25 Watt			Without Heatsink
Thermal Resistance	3.3°C/W			Resistor Hotspot to Flange
Resistance Range	R01 - R09	R1 - 9R1	10R - 51K	Any value within range and tolerance
TCR (ppm/°C)	250	100	50	For -55°C to +155°C
Tolerance	$\pm 5\%$	$\pm 1\%$ & $\pm 5\%$	$\pm 1\%$ & $\pm 5\%$	
Operation Temperature Range	-55°C to +155°C			
Maximum Operating Voltage	500V or \sqrt{PR}			
Dielectric Withstanding Voltage	2000 Vdc			60 Seconds
Load Life	$\Delta R = \pm 1\% + 0.5\Omega$			25°C, 90 min ON, 30 min OFF, 1000 Hours
Humidity	$\Delta R = \pm 1\% + 0.5\Omega$			40°C, 90 - 95%RH, DC 0.1W, 1000 Hours
Temperature Cycle	$\Delta R = \pm 1\% + 0.5\Omega$			-55°C, 30 min, +155°C, 30 min, 5 cycles
Soldering Heat (Max.)	$\Delta R = \pm 1\% + 0.5\Omega$			250 \pm 5°C, 3 seconds
Solderability	Minimum 90% Coverage			230 \pm 5°C, 3 seconds
Insulation Resistance	Over 1,000 M Ω			Between Terminals and Tab
Vibration	$\Delta R = \pm 0.25\% + 0.5\Omega$			

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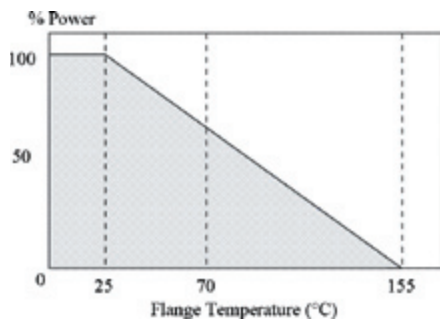
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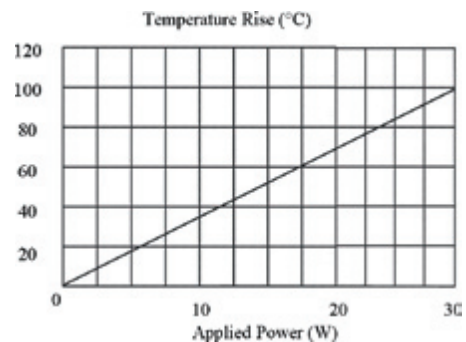
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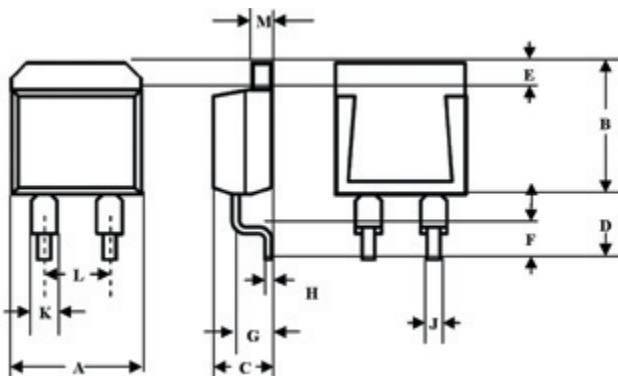
Derating Curve



Temperature Rise



Dimensions (mm)



AP725		
	mm	± mm
A	10.1	± 0.2
B	10.3	± 0.2
C	4.5	± 0.2
D	5.0	± 1.0
E	2.5	± 0.5
F	2.2	± 0.2
G	2.75	± 0.2
H	0.5	± 0.05
J	0.75	± 0.05
K	1.5	± 0.05
L	5.08	± 0.10
M	1.5	± 0.05

Notes:

1. Electrically isolated metal tab.
2. Contact Factory for custom products, non-standard values and tolerances
3. Current Rating: 25A Maximum.

Ordering Procedure

Standard Resistor: Series, Resistance and Tolerance Code.

e.g. AP725 R01 F

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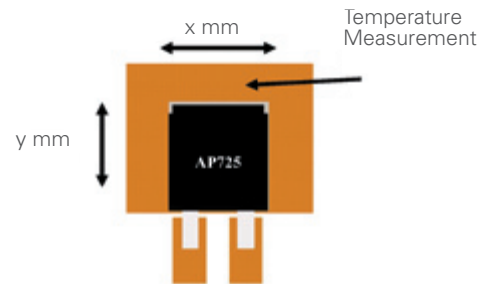


FR4 Thermal PSB Characterisation

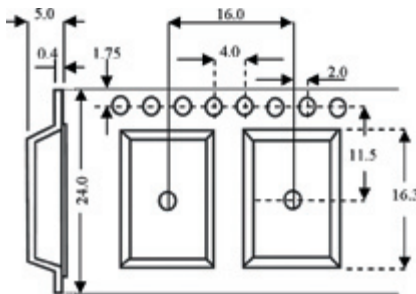
Pad Dimensions (x,y mm)	P90°C, 35µm (W)
50,40	4.5
45,35	4
40,30	3.5
35,25	3
20,10	2

Notes:

Characterisation carried out using 35µm PCB Copper pad weights, with the temperature of 90°C used as a maximum reference on the PCB
P90°C, 35µm (W) is power when the measurement point reaches 90°C.

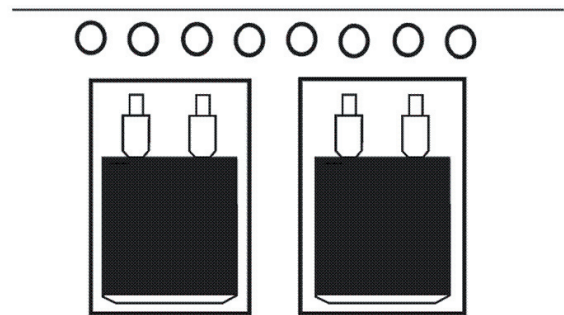


Tape Dimensions and Orientation



Reel Dimensions:

Outer Diameter: 300mm
Inner Diameter: 100mm
Width: 23.9mm min - 27.4mm max
Quantity: 500pcs / reel



Reel Orientation:

Units to be orientated with pins facing sprocket holes

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