

AP140 140W TO-247 High Power Resistors



A TO-247 resistor pack with low thermal resistance and capable of dissipating 140 watts. High specification materials aid rapid heat transfer to heat sink via thermal grease.



- Power Dissipation 140 watts (tab temp max 25°C) 5 watts no h/s
- Value Range R01 – 51K
- Tolerance Options $\pm 1\%$ or $\pm 5\%$
- TCR Options ± 50 - 250ppm/°C (re ohmic value)
- Maximum Voltage 700Vdc or $\sqrt{(P.R)}$
- Dielectric Strength 2500 Vac (60 secs)
- Special Features Extremely low thermal resistance at 0.9°C/W resistor hotspot to metal tab.
RoHS Compliant

Characteristics

Item	Specifications	Test Conditions
Power Rating	140 Watts	@ Tab Temp < 25°C
Power Rating	5.0 Watts	Free air
Resistance Range	R01-R09 R1-9R1 10R-51K	
TCR	250PPM/°C 100PPM/°C 50PPM/°C	-55 to +155°C
Tolerance	$\pm 5\%$ (J) $\pm 1\%$ (F), 5%(J) $\pm 1\%$ (F), 5%(J)	
Operation Temp. Range	-55°C to +155°C	
Max. Operating Volt	700V or \sqrt{PR}	
Dielectric Withstanding Volt	2500Vac	60 seconds
Load Life	$\Delta R \pm (1.0 \% + 0.05\Omega)$	25°C, 90 min ON, 30 OFF, 1000hrs
Humidity	$\Delta R \pm (1.0 \% + 0.05\Omega)$	40°C, 90-95%RH, DC 0.1W, 1000hrs
Temp. Cycle	$\Delta R \pm (0.25 \% + 0.05\Omega)$	-55°C, 30 min, +155°C, 30 min, 5 cycles
Soldering Heat	$\Delta R \pm (0.25\% + 0.05\Omega)$	250 \pm 5°C, 3 seconds
Solder ability	OVER 95% of surface	230 \pm 5°C, 3 seconds
Insulation Resistance	Over 1,000 M Ω	Between terminals and tab
Vibration	$\Delta R \pm (0.25 \% + 0.05\Omega)$	

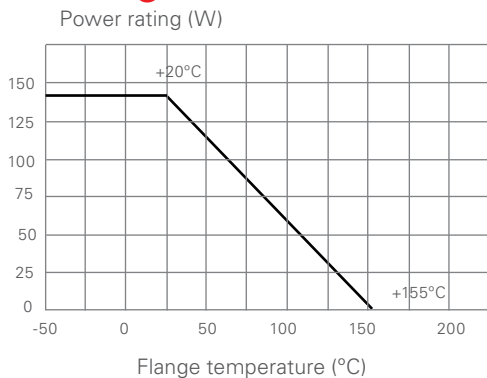
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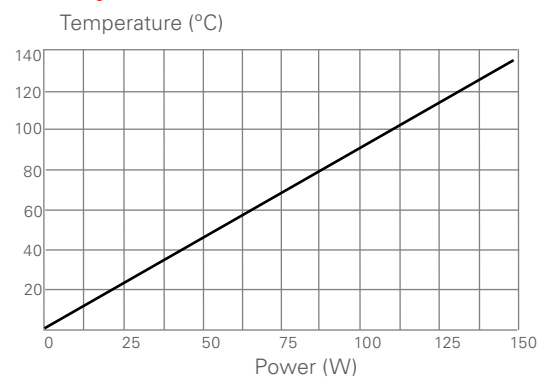
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It is the responsibility of the customer to ensure that the component selected from our range is suitable for the intended application. If in doubt please ask Arcol.

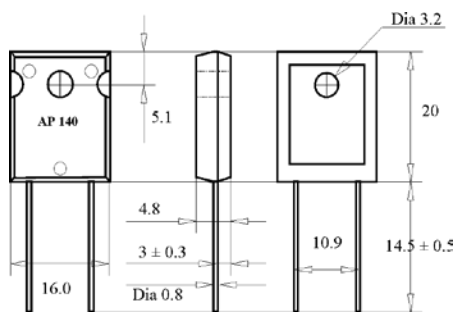
Derating Curve



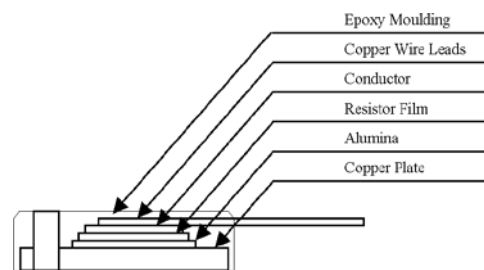
Temperature Rise



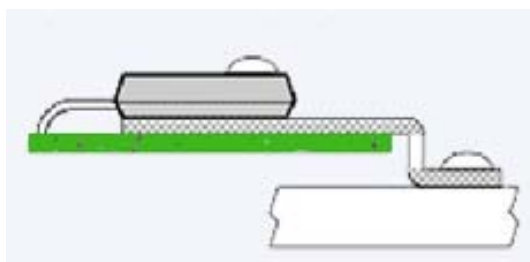
Dimensions (mm)



Structure and Material



Mounting Arrangement



Ordering Procedure

Standard Resistor: Series, Resistance and Tolerance Code.
e.g. AP140 500R F

NOTES:

1. Electrically isolated metal tab.
2. Recommended the use of thermal grease between metal tab and heat sink.
3. Thermal design should account for a thermal resistance between resistor and tab of 1.3°C/W and a maximum resistor temperature of 155°C.
4. Current rating 25A maximum.

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