

# AP821 20 Watts TO-220 High Power Resistors



A high power TO-220 style resistor package designed for high frequency emitter circuits in switching power supplies. Also used in voltage regulation and low energy pulse loading.

- 20 Watts at 25°C case temperature on heat sink
- Moulded case for protection and easy to mount
- Non-inductive design
- Electrically isolated case
- RoHS Compliant



## Characteristics

|                               |   |
|-------------------------------|---|
| Power rating:                 | 2.25 Watts in free air  |
| Operating voltage:            | 350V max  |
| Dielectric strength:          | 1800Vac   |
| Insulation resistance:        | 10GΩ min  |
| Working temperature range:    | -65°C to +150°C   |
| Temperature coefficient:      | As specified, referenced to 25°C, ΔR taken at +105°C  |
| Overload:                     | ΔR ±0.3%, 2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds |
| Load life:                    | ΔR ±1.0%, 2000 hours at rated power   |
| Damp heat with load:          | ΔR ±0.5%, 40 ±2°C, 90 - 95% R.H max working voltage for 1000 hours with 1.5 hours "ON" and 0.5 hours "OFF"                    |
| Solderability:                | 90% min coverage, 245 ±5°C for 3 seconds  |
| Thermal shock:                | ΔR ±0.3%, -65°C - 150°C, 100 cycles   |
| Terminal strength:            | ΔR ±0.2%, 2.4 N   |
| Vibration and high frequency: | ΔR ±0.2%, 20g peak  |

## Electrical Specifications

| Resistance Value Range | Available Tolerance & Pref. Value Ranges | Available TCR                         |
|------------------------|--|---------------------------------------|
| R05 - 1R               | J (±5%) K (±10%)                         | Not specified                         |
| 1R02 - 3R              | F (±1%) , J (±5%) , K (±10%)             | ±300ppm/°C                            |
| 3R01 - 10R             |  | ±100ppm/°C<br>±200ppm/°C              |
| 10R2 - 10K             | D (±0.5%) F (±1%) J (±5%) K (±10%)       | ±50ppm/°C<br>±100ppm/°C<br>±200ppm/°C |

Preferred value ranges:  
F (±1%) - E96 , J (±5%) - E24, K (±10%) - E12

## Derating Curve



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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.

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## Dimensions (mm)



## Ordering Procedure

Standard Resistor: Series, Resistance Value, Tolerance Code, TCR

eg: AP821 10K J  $\pm$  50ppm/ $^{\circ}$ C

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