

# AP851 50 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.



- 50 Watts at 25°C case temperature on heat sink
- Single screw mounting to 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:            | 420V max  |
| Dielectric strength:          | 1800Vac   |
| Insulation resistance:        | 10GΩ min  |
| Temperature coefficient:      | As specified, referenced to 25°C, ΔR taken at +105°C  |
| Short time 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                                |
|------------------------|--|--|
| R1 - 1R                | J (±5%) K (±10%)                         | Not specified                                |
| 1R02 - 3R              | F (±1%) , J (±5%) , K (±10%)             | ±300ppm/°C                                   |
| 3R01 - 10R             |  | ±100ppm/°C (std.)<br>±200ppm/°C              |
| 10R2 - 10K             | D (±0.5%) F (±1%) J (±5%) K (±10%)       | ±50ppm/°C<br>±100ppm/°C (std.)<br>±200ppm/°C |

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

## Derating Curve



For more information and ordering, please consult  
[www.arcolresistors.com](http://www.arcolresistors.com)

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## Dimensions (mm)



## Standard part numbers

|           |           |            |            |
|-----------|-----------|------------|------------|
| AP8511RF  | AP8514R7J | AP85125RJ  | AP851330RJ |
| AP8511RJ  | AP85110RF | AP85147RJ  | AP851470RJ |
| AP8512RJ  | AP85110RJ | AP851100RF | AP8511KJ   |
| AP8513R3J | AP85115RJ | AP851100RJ | AP85110KJ  |
| AP8513R9J | AP85125RF | AP851220RJ |            |

## Ordering Information

**A P 8 5 1 1 0 0 R F N**

| Series | Resistance | Tolerance | TCR              |
|--------|------------|-----------|------------------|
|        |            | F = 1%    | N = 50ppm        |
|        |            | J = 5%    | L = 200ppm       |
|        |            | K = 10%   | Blank = standard |

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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.