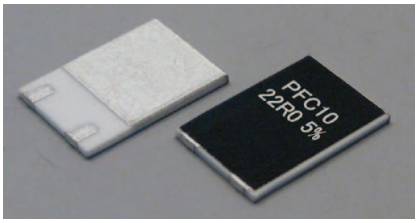
PFC Series

Thick Film Power SMD Resistors



- **D-PAK Foot Pattern**
- **Very Low Profile**
- **Resistances from 0.1 Ohm to 51kOhms**
- **Power Rating to 25 Watts**
- **Resistance Tolerances to ±1%**
- **TCR to ±100ppm/°C**
- **Isolated Back Plate**

SPECIFICATIONS

Type	PFC10	
Power Rating with heatsink	25W (2.5W on Simple Foot Print)	
Short Time Overload	35 W	
Thermal Resistance Rthj-c	3.6 K/W	
Resistance Range	0.1 - 51K Ohms E24+ (includes 2.5, 4.0, 5.0, 8.0, and 16)	
Tolerances (others upon request)	1% / 5%	
Temperature Coefficient	100 ppm/K	
Operating Temperature	-55°C to 155°C	
Max Operating Voltage	$\sqrt{P*R}$	
Capacitance	1.44 pF	
Inductance	15 nH	
Withstanding Voltage	1500 VAC	
Insulation Resistance	Over 1,000 Megohm	
Resistor Material	Thick Film	
Test Conditions	Results	
Load Life	±1%	90 min ON, 30 min OFF, 1000 hrs @ 25C
Humidity	±1%	90-95% RH, 0.1W, 1000 hrs @ 40C
Temperature Cycle	±0.25%	-55C for 30 min, +155C for 30 min, 5 cycles
Solder Heat	±0.1%	350C ±5C for 3 seconds
Lead Solderability	Over 95% of surface	230 ±5C for 3 seconds
Vibration	±0.25%	IEC60068-2-6

Ordering Information

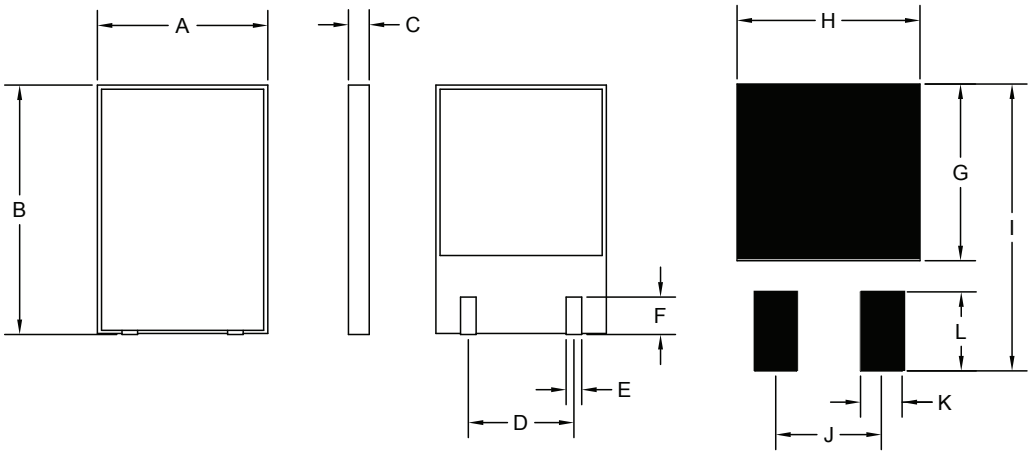
Part Description: Part Type - Resistance - Tolerance
PFC10 10 Ohms 1%

Note: PFC10 can operate 35W rating with back solder pad temperature of 25°C

Riedon Inc. 300 Cypress Avenue Alhambra CA 91801 ☎ (626) 284-9901 🖷 (626) 284-1704
www.riedon.com

DIMENSIONS

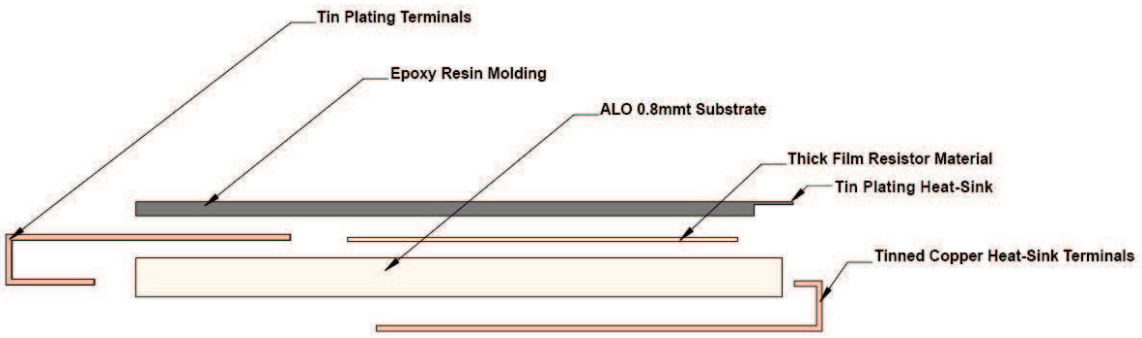
Solder Pad Layout



Note: Back solder pad is isolated from both pins.

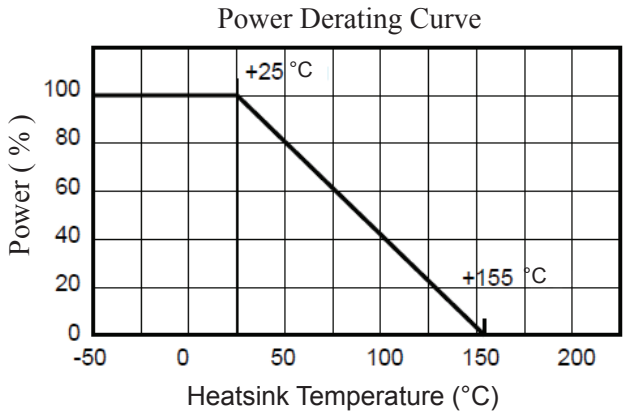
Dimension	mm	tol. (±mm)	inches	tol. (±inches)
A	8.2	0.2	0.323	0.008
B	12.0	0.2	0.472	0.008
C	1.0	0.05	0.039	0.002
D	5.08	0.1	0.200	0.004
E	0.75	0.05	0.030	0.002
F	1.8	0.05	0.070	0.002
G	8.5	-	0.335	-
H	8.8	-	0.346	-
I	14.1	-	0.555	-
J	5.08	-	0.200	-
K	2.0	-	0.079	-
L	3.8	-	0.150	-

CHIP CONSTRUCTION (EXPLODED VIEW)



MOUNTING

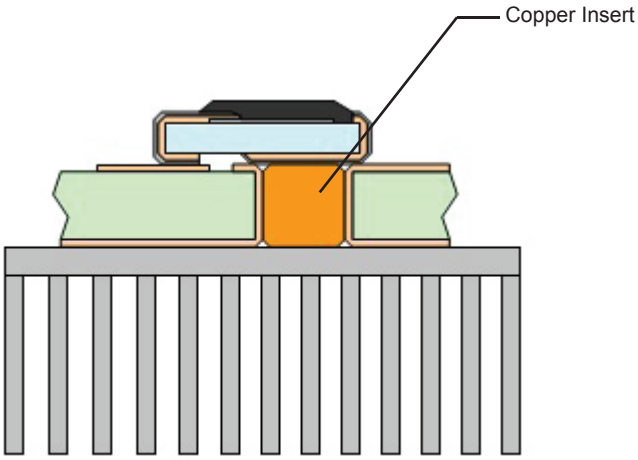
Derating



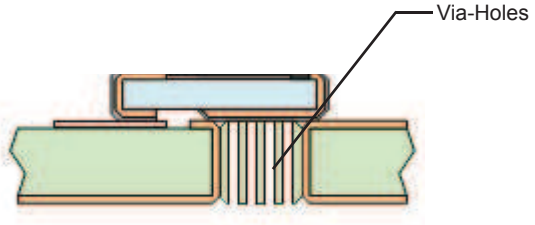
Power Rating Notes -
The PFC Series Resistors must be attached to a suitable heat-sink. The maximum internal resistor temperature is 155°C.
To specify an appropriate heatsink use the following formula :

$$R_{\Theta H} = \frac{T_{MAX} - (P * R_{\Theta R}) - T_A}{P}$$

Where: $R_{\theta H}$ = Thermal Resistance of Heatsink (K/W)
$R_{\theta R}$ = Thermal Resistance of Resistor (K/W)
T_{MAX} = Maximum Temperature of Resistor
T_A = Ambient Temperature of Heatsink (°C)
P = Power Through Resistor (W)



Copper insert improves thermal conductivity to heatsink. Power ratings of 35W can be achieved through active cooling of the heatsink. For more general information on heatsinking please see our training module on heatsinking by clicking here.



Plastic Tape Specifications

Standard Package contains 500 pcs/reel, diameter 254mm reel in paper box.

Digikey Package contains 500 pcs/reel, diameter 254mm reel in paper box.