MP725 Surface Mount Power Film Resistors

New

D-Pak Style Surface Mount Power Package including Metal Tab - 0.020 ohm to 1.00 Kohm

Use your thermal design experience with power semiconductors in D-Pak style power packages. This experience will help you get the most out of this unique family of surface mount power resistors. The thermal design issues are the same where power handling capability is based on the case temperature which is maintained in your design.

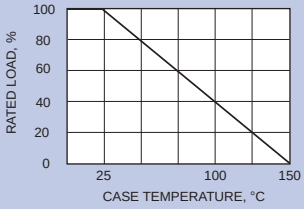
MP725 Surface Mount Power Film Resistors introduce our proven Micronox® resistance film system in the widely accepted D-Pak style surface mount power package. The non-inductive design makes this resistor ideal in high frequency communications, power switching circuits and snubbers.

The special performance features of our patented MP725 Surface Mount Power Film Resistors include:

- **D-Pak style power package for surface mount applications.**
- **Metal tab assists in post surface mount soldering inspection.**
- **Resistance values to 0.020 ohm for current sense applications.**
- **Non-Inductive Design.**
- **Up to 25 Watt power rating at +25°C case temperature.**
- **Resistor element is electrically isolated from the metal heat sink tab.**

Model No.	Power Rating	Dielect. Strength V_{RMS}AC	Max. Voltage	Resistance		Terminal
				Min.	Max.	
MP725	25 Watts *	1,500	200	0.020 Ω	1.00K	Solderable

DERATING CURVE



* **The case temperature is to be used for purposes of establishing the maximum applied power. See Derating Curve.** The case temperature measurement is made on the metal mounting tab against the molded body. Derate appropriately for the ambient temperature range, the thermal resistance of the mounting surface, and the temperature limitations of the adjacent materials (such as glass epoxy).

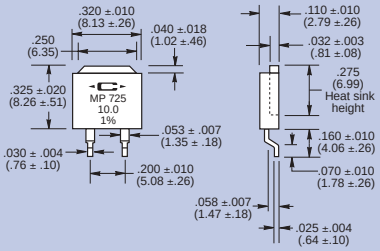
Derating (thermal resistance) is 0.200 W/°C (5.0°C/W).

Power dissipation is 2.5 watts, at an ambient temperature of 25°C, when mounted on a double sided copper board (2 ounce, G-10 or FR-4) 1 inch x 1 inch x .063 inch (thick).

Standard Resistance Values:

0.020 Ω	0.25 Ω	3.00 Ω	27.0 Ω	200 Ω
0.025 Ω	0.30 Ω	3.30 Ω	30.0 Ω	250 Ω
0.030 Ω	0.33 Ω	4.00 Ω	33.0 Ω	300 Ω
0.033 Ω	0.40 Ω	5.00 Ω	40.0 Ω	330 Ω
0.040 Ω	0.50 Ω	7.50 Ω	47.0 Ω	400 Ω
0.050 Ω	0.75 Ω	8.00 Ω	50.0 Ω	470 Ω
0.075 Ω	1.00 Ω	10.0 Ω	56.0 Ω	500 Ω
0.10 Ω	1.50 Ω	12.0 Ω	75.0 Ω	560 Ω
0.15 Ω	2.00 Ω	15.0 Ω	100 Ω	750 Ω
0.20 Ω	2.50 Ω	20.0 Ω	120 Ω	1.00 K
		25.0 Ω	150 Ω	

PACKAGE DIMENSIONS

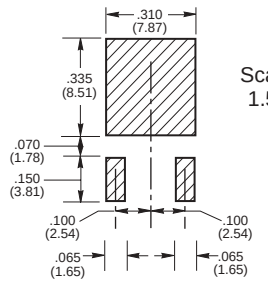


Dimensions in inches and (millimeters)

Custom resistance values can be manufactured for high quantity applications. Please contact Caddock Applications Engineering.

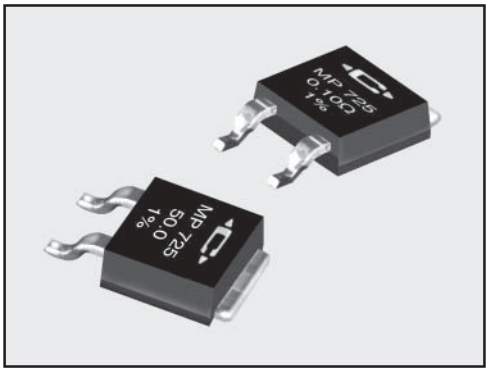
Measurement Note:
For the specifications, resistance measurement shall be made at the foot of surface mount formed terminal.

FOOTPRINT FOR SOLDERABLE CONTACT AREA



Scale: 1.5X

Soldering Note: During surface mount soldering the soldering temperature profile must not cause the metal tab of this device to exceed 220°C.



Specification

Resistance Tolerance: ±1% for 0.050Ω up to 1.00KΩ, ±5% for 0.020Ω up to 0.049Ω (5% and 20% are available for most resistance values).

Temperature Coefficient:
TC referenced to +25°C, ΔR taken at +150°C
0.50 ohm and above, -20 to +80 ppm/°C
0.050 ohm to 0.49 ohm, 0 to +200 ppm/°C
0.020 ohm to 0.049 ohm, 0 to +300 ppm/°C

Thermal Shock: Mil-Std-202, Method 107, Cond. F, ΔR ±(0.5 percent + 0.0005 ohm) max.

Momentary Overload: 1.5 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds, ΔR ±(0.5 percent + 0.0005 ohm) max.

Load Life: 2,000 hours at rated power, ΔR ±(1.0 percent + 0.0005 ohm). Power rating dependent upon case temperature. See derating curve.

Moisture Resistance: Mil-Std-202, Method 106, ΔR ±(0.5 percent + 0.0005 ohm) max.

Shock: 100G, Mil-Std-202, Method 213, Cond. I, ΔR ±(0.4 percent + 0.0005 ohm) max.

Vibration, High Frequency: Mil-Std-202, Method 204, Cond. D, ΔR ±(0.4 percent + 0.0005 ohm) max.

Terminal Strength: Mil-Std-202, Method 211, Cond. A (Pull Test) 5 lbs., ΔR ±(0.2 percent + 0.0005 ohm) max.

Insulation Resistance: 10,000 Megohms, min. The resistor is electrically isolated from the metal tab.

DWV: The dielectric strength rating of 1500 V_{RMS}AC is based upon connections made between terminals shorted and either the metal surface the part is mounted to or a metal clip in contact with the top surface of the part.

Packaging Note:
Quantities of 250 pieces or greater, will be supplied in tape and reel packaging. The full reel quantity is 1250 pieces.

Ordering Information:

MP725 - 10.0 - 1%

Model Number:
Resistor Value:
Tolerance

Certain products shown in this catalog are covered by one or more patents, there are also patents pending.

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