

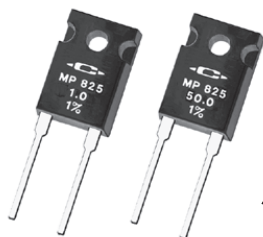
# MP808 / MP825 (TO-126 style) and MP816 / MP850 (TO-220 style) Kool-Pak® Power Film Resistors

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## TO-126 and TO-220 Style Power Packages - Non-Inductive Designs

Use your thermal design experience with power semiconductors in the TO-220 and TO-126 style power package. This experience will help you get the most out of this unique family of 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.

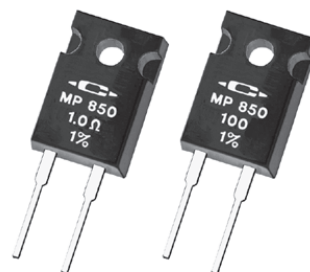
### MP825 and MP850 Power Packages Include an Integral Metal Mounting Surface for Highly Efficient Thermal Transfer



25 Watts

#### MP 825 Kool-Pak® Power Resistors TO-126 Style Power Package

- 25 Watts at +25°C Case Temperature derated to zero at +150°C
- Copper Heat Sink Integral in the Molded Package
- Resistance Range of 0.020 ohm to 10.0K
- Resistor element is electrically isolated from the mounting surface



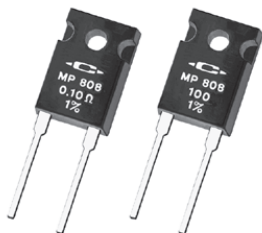
50 Watts

#### MP 850 Kool-Pak® Power Resistors TO-220 Style Power Package

- 50 Watts at +25°C Case Temperature derated to zero at +150°C
- Copper Heat Sink Integral in the Molded Package
- Resistance Range of 0.20 ohm to 10.0K
- Resistor element is electrically isolated from the mounting surface

**Construction of MP825 and MP850:** The MP825 and MP850 Kool-Pak® Power Film Resistors are constructed with Caddock's Micronox® resistance film fired onto a flat ceramic substrate. The terminal attachment and resistance element geometry are configured to provide outstanding non-inductive performance. The ceramic substrate is bonded to a copper heat sink which becomes the metal mounting surface. This assembly is molded in a high thermal conductivity molding compound with the copper heat sink flush with the back surface of the part.

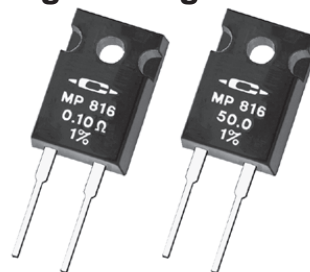
### MP808 and MP816 with an All Molded Package Configuration



8 Watts

#### MP 808 Kool-Pak® Power Resistors TO-126 Style Power Package

- 8 Watts at +25°C Case Temperature derated to zero at +150°C
- Thermally Conductive Molded Package
- Lower Cost
- Resistance Range of 0.020 ohm to 10.0K
- Resistor element is electrically isolated from the mounting surface



16 Watts

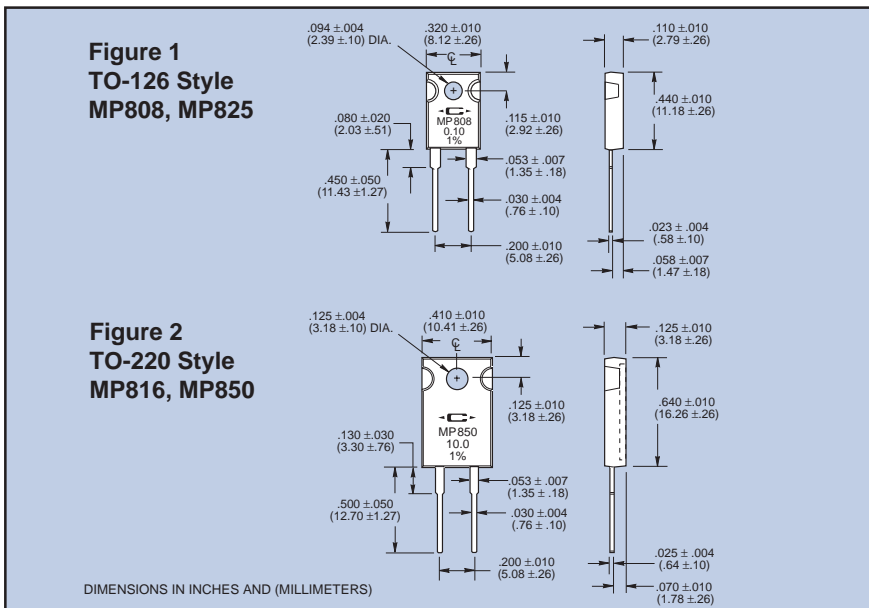
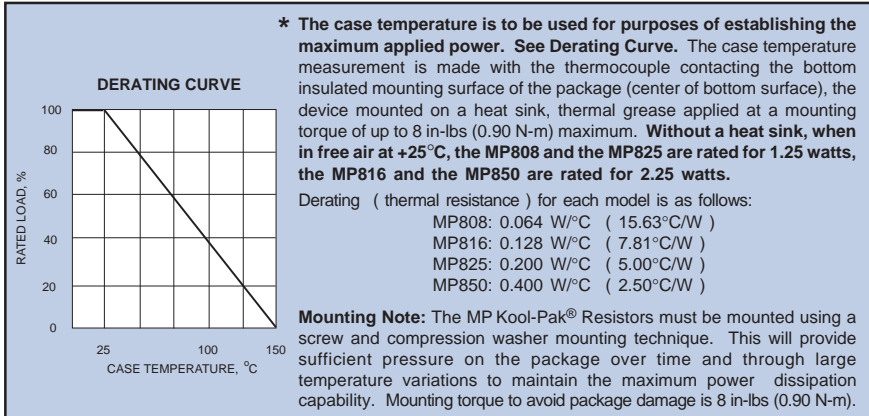
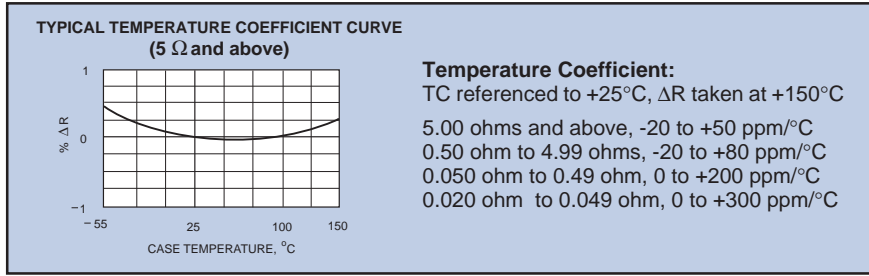
#### MP 816 Kool-Pak® Power Resistors TO-220 Style Power Package

- 16 Watts at +25°C Case Temperature derated to zero at +150°C
- Thermally Conductive Molded Package
- Lower Cost
- Resistance Range of 0.10 ohm to 10.0K
- Resistor element is electrically isolated from the mounting surface

**Construction of MP808 and MP816:** The MP808 and MP816 Kool-Pak® Power Film Resistors are constructed with Caddock's Micronox® resistance film fired onto a flat ceramic substrate. The terminal attachment and resistance element geometry are configured to provide outstanding non-inductive performance. The resistor body is completely surrounded by a high thermal conductivity molding compound to finish this cost effective power resistor package.

# MP808 / MP825 (TO-126 style) and MP816 / MP850 (TO-220 style) Kool-Pak® Power Film Resistors

Model No.	Power Rating	Package	Dimensions	Dielect. Strength VRMS AC	Max. Voltage	Resistance		Terminal	Comments
						Min.	Max.		
MP808	8 Watts *	TO-126 Style	Figure 1	1,500	300	0.020 Ω	10.0 K	Solderable	All Molded Package
MP816	16 Watts*	TO-220 Style	Figure 2	1,500	300	0.10 Ω	10.0 K	Solderable	All Molded Package
MP825	25 Watts*	TO-126 Style	Figure 1	1,500	300	0.020 Ω	10.0 K	Solderable	Integral Metal Mounting Surface in Molded Package
MP850	50 Watts*	TO-220 Style	Figure 2	1,500	300	0.20 Ω	10.0 K	Solderable	Integral Metal Mounting Surface in Molded Package



## Specifications:

**Resistance Tolerance:** ±1% for 0.050Ω up to 10.0kΩ, ±5% for 0.020Ω up to 0.049Ω (0.5%, 2%, 5%, 10% and 20% are available for most resistance values).

**Insulation Resistance:** 10,000 Megohms, min. The resistor element is electrically isolated from the mounting surface.

**Terminal Strength:** Mil-Std-202, Method 211, Cond. A (Pull Test) 5 lbs.

**MP808, MP816, MP825:**  
ΔR ±(0.2 percent + 0.001 ohm) max.

**MP850:**  
ΔR ±(0.2 percent + 0.01 ohm) max.

**Thermal Shock:** Mil-Std-202, Method 107, Cond. F.

**MP808, MP816, MP825:**  
ΔR ±(0.3 percent + 0.001 ohm) max.

**MP850:**  
ΔR ±(0.3 percent + 0.01 ohm) max.

**Momentary Overload:**

MP816 and MP850: 2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds.

**MP816:**  
ΔR ±(0.3 percent + 0.001 ohm) max.

**MP850:**  
ΔR ±(0.3 percent + 0.01 ohm) max.

MP808 and MP825: 1.5 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds.

**MP808, MP825:**  
ΔR ±(0.3 percent + 0.001 ohm) max.

**Moisture Resistance:** Mil-Std-202, Method 106.

**MP808, MP816, MP825:**  
ΔR ±(0.5 percent + 0.001 ohm) max.

**MP850:**  
ΔR ±(0.5 percent + 0.01 ohm) max.

**Load Life:** 2,000 hours at rated power. Power rating dependent upon case temperature. See derating curve.

**MP808, MP816, MP825:**  
ΔR ±(1.0 percent + 0.001 ohm) max.

**MP850:**  
ΔR ±(1.0 percent + 0.01 ohm) max.

**Shock:** 100G, Mil-Std-202, Method 213, Cond. I.

**MP808, MP816, MP825:**  
ΔR ±(0.2 percent + 0.001 ohm) max.

**MP850:**  
ΔR ±(0.2 percent + 0.01 ohm) max.

**Vibration, High Frequency:** Mil-Std-202, Method 204, Cond. D.

**MP808, MP816, MP825:**  
ΔR ±(0.2 percent + 0.001 ohm) max.

**MP850:**  
ΔR ±(0.2 percent + 0.01 ohm) max.

**Measurement Note:** For these specifications, resistance measurement shall be made at a point 0.2 inch (5.08 mm) from the resistor body.

## Ordering Information:

Model Number: MP816 - 50.0 - 1% Tolerance  
Resistor Value: \_\_\_\_\_