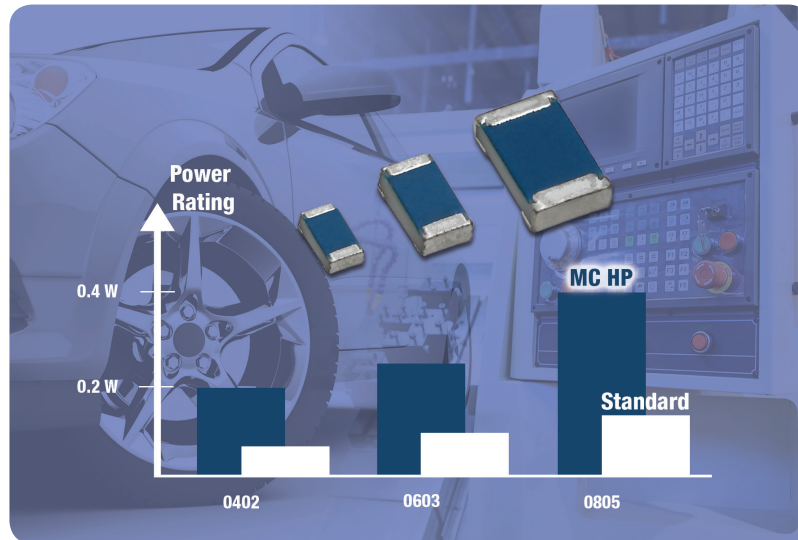


High Power Thin Film Chip Resistors



KEY BENEFITS

- High rated dissipation up to 0.4 W
- Small 0402, 0603, 0805 case sizes
- Excellent long term stability $\leq 0.2\%$ after 1000 h at rated dissipation
- Tolerance down to $\pm 0.1\%$
- TCR down to ± 25 ppm/K
- High temperature operation up to 175 °C
- AEC-Q200 qualified

APPLICATIONS

- Automotive electronics: DC/DC converters, on-board power supply control units
- Industrial electronics: motors and electronic control units, test and measurement equipment
- Renewable energy and power engineering: electronic control units, energy management, inverters

RESOURCES

- Datasheet: MCS 0402 HP, MCT 0603 HP, MCU 0805 HP - www.vishay.com/doc?28916
- Material categorization: For definitions please see www.vishay.com/doc?99912
- For technical questions contact thinfilmchip@vishay.com

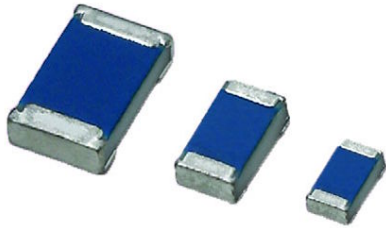


RoHS
COMPLIANT



**THIN FILM RESISTORS**

MCS 0402 HP, MCT 0603 HP, MCU 0805 HP

High Power Thin Film Chip Resistors

Automotive grade high power MC HP thin film chip resistors are the perfect choice for most fields of modern electronics where high power dissipation, reliability and stability is of major concern. The permissible power rating is specified with up to 400 mW and allows replacement of larger case sizes with next smaller ones. Typical applications include power electronics in automotive and industrial appliances.

FEATURES

- Operating temperature up to 175 °C
- Rated dissipation up to 0.4 W for size 0805
- AEC-Q200 qualified
- Superior temperature cycling robustness
- Advanced sulfur resistance verified according to ASTM B 809
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE
GRADE**RoHS**
COMPLIANT**APPLICATIONS**

- Automotive
- Industrial
- High power and high temperature applications
- Replacement for larger case sizes

TECHNICAL SPECIFICATIONS

DESCRIPTION	MCS 0402 HP	MCT 0603 HP	MCU 0805 HP
Imperial size	0402	0603	0805
Metric size code	RR1005M	RR1608M	RR2012M
Resistance range	47 Ω to 100 kΩ	1 Ω to 100 kΩ	1 Ω to 100 kΩ
Resistance tolerance	± 1 %, ± 0.5 %, ± 0.1 %		
Temperature coefficient	± 50 ppm/K; ± 25 ppm/K		
Rated dissipation $P_{85}^{(1)}$	0.200 W	0.250 W	0.400 W
Operating voltage, $U_{max. AC_{RMS}/DC}$	50 V	75 V	150 V
Permissible film temperature, $\vartheta_{F max.}^{(1)}$	175 °C		
Operating temperature range	-55 °C to 175 °C		

Note

(1) Please refer to APPLICATION INFORMATION below

APPLICATION INFORMATION

When the resistor dissipates power, a temperature rise above the ambient temperature occurs, dependent on the thermal resistance of the assembled resistor together with the printed circuit board. The rated dissipation applies only if the permitted film temperature is not exceeded.

These resistors do not feature a limited lifetime when operated within the permissible limits. However, resistance value drift increasing over operating time may result in exceeding a limit acceptable to the specific application, thereby establishing a functional lifetime.

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