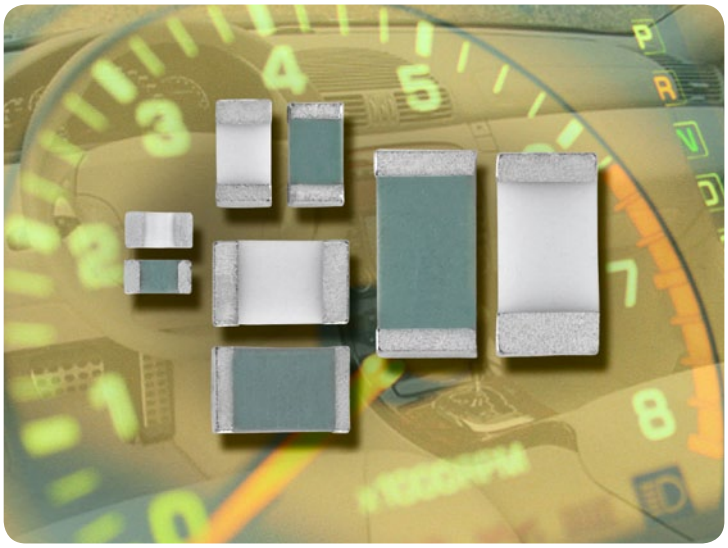
THIN FILM FUSE RESISTORS

MCS 0402, MCT 0603, MCU 0805, MCA 1206 Series

Resistors - Precision and Superior Stability

Precision Thin Film Flat Chip Resistors



KEY BENEFITS

- Thin film technology
- Low TCR: ± 10 to ± 25 ppm/K
- Precision tolerance of value: ± 0.1 and ± 0.25 %
- Superior overall stability: class 0.1 and 0.25
- Green product, supports lead-free soldering
- Approved according to EN 140 401-801

APPLICATIONS

- Telecommunications
- Industrial equipment
- Automotive electronics
- Test and measuring equipment
- Medical equipment

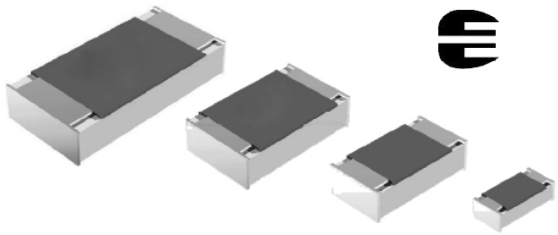
RESOURCES

- Datasheet: MCS 0402, MCT 0603, MCU 0805, MCA 1206 Series - http://www.vishay.com/doc?28700
- For technical questions contact thinfilmchip@vishay.com

THIN FILM FUSE RESISTORS

MCS 0402, MCT 0603, MCU 0805, MCA 1206 Series

Precision Thin Film Flat Chip Resistors



Thin Film Flat Chip Resistors combine the proven reliability of the professional products with an advanced level of precision and stability. Therefore they are perfectly suited for applications in the fields of test and measuring equipment together with industrial and medical electronics.

FEATURES

- Approved according to EN 140401-801
- Low TCR: ± 10 ppm/K to ± 25 ppm/K
- Precision tolerance of value: ± 0.1 % and ± 0.25 %
- Superior overall stability: Class 0.1 and 0.25
- Lead (Pb)-free solder contacts
- Compliant to RoHS directive 2002/95/EC

RoHS COMPLIANT

APPLICATIONS

- Automotive
- Test and measuring equipment
- Medical equipment
- Industrial equipment

METRIC SIZE				
INCH:	0402	0603	0805	1206
METRIC:	RR 1005M	RR 1608M	RR 2012M	RR 3216M

TECHNICAL SPECIFICATIONS

DESCRIPTION	MCS 0402		MCT 0603		MCU 0805		MCA 1206	
Metric size	RR 1005M		RR 1608M		RR 2012M		RR 3216M	
Resistance range	100 Ω to 221 kΩ		39 Ω to 511 kΩ		39 Ω to 1.5 MΩ		39 Ω to 2 MΩ	
Resistance tolerance	± 0.25 %; ± 0.1 %							
Temperature coefficient	± 25 ppm/K; ± 15 ppm/K; ± 10 ppm/K							
Operation mode	Precision	Standard	Precision	Standard	Precision	Standard	Precision	Standard
Climatic category (LCT/UCT/days)	10/85/56	55/125/56	10/85/56	55/125/56	10/85/56	55/125/56	10/85/56	55/125/56
Rated dissipation, P_{70} (1)	0.016 W	0.063 W	0.032 W	0.1 W	0.050 W	0.125 W	0.1 W	0.25 W
Operating voltage, $U_{max.}$ AC/DC	12.5 V	50 V	25 V	75 V	35 V	150 V	50 V	200 V
Film temperature	85 °C	125 °C	85 °C	125 °C	85 °C	125 °C	85 °C	125 °C
Max. resistance change at P_{70} for resistance range, $\lvert\Delta R/R\rvert$ max., after:	100 Ω to 221 kΩ		39 Ω to 511 kΩ		39 Ω to 1.5 MΩ		39 Ω to 2 MΩ	
1000 h	≤ 0.1 %	≤ 0.2 %	≤ 0.1 %	≤ 0.2 %	≤ 0.1 %	≤ 0.2 %	≤ 0.05 %	≤ 0.1 %
8000 h	≤ 0.2 %	≤ 0.4 %	≤ 0.2 %	≤ 0.4 %	≤ 0.2 %	≤ 0.4 %	≤ 0.1 %	≤ 0.25 %
225 000 h	≤ 0.5 %	≤ 1.0 %	≤ 0.5 %	≤ 1.0 %	≤ 0.5 %	≤ 1.0 %	≤ 0.25 %	≤ 0.5 %
Specified lifetime	225 000 h		225 000 h		225 000 h		225 000 h	
Insulation voltage:								
1 min; U_{ins}	75 V		100 V		200 V		300 V	
Continuous	75 V		75 V		75 V		75 V	
Failure rate: $FIT_{observed}$	≤ 0.1 x 10^{-9}/h		≤ 0.1 x 10^{-9}/h		≤ 0.1 x 10^{-9}/h		≤ 0.1 x 10^{-9}/h	

Note

(1) The power dissipation on the resistor generates a temperature rise against the local ambient, depending on the heat flow support of the printed-circuit board (thermal resistance). The rated dissipation applies only if the permitted film temperature is not exceeded.

Revision 18-Dec-09

Resistors - Precision and Superior Stability