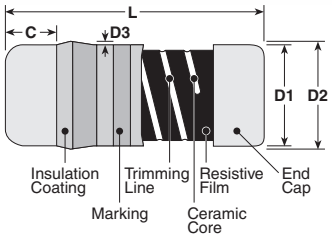
EU RoHS COMPLIANT

features

- Free direction for mounting due to cylindrical design
- Superior in the linearity of resistance change to temperature
- Standard resistance sizes
- Meets or exceeds IEC 60115-1
- Marking: Gray body color
- Products with lead-free terminations meet EU RoHS and China RoHS requirements

dimensions and construction



Type (Inch Size Code)	Dimensions inches (mm)				
	L	C (min.)	D1	D2 (max.)	D3 (max.)
2B (1406)	.138±.008 (3.5±0.2)	.02 (0.5)	.057±.004 (1.45±0.1)	.061 (1.55)	.004 (0.1)
2E (2309)	.232±.008 (5.9±0.2)	.02 (0.5)	.087±.004 (2.2±0.1)	.094 (2.4)	.006 (0.15)

ordering information

New Part #

MLT	2B	T	TE	101	J	3600
Type	Size	Termination Material	Packaging	Nominal Resistance	Tolerance	T.C.R.
	2B: 1406 2E: 2309	T: Sn	TE: 7" embossed plastic (2B - 3,000 pieces/reel) (2E - 1,500 pieces/reel)	2 significant figures + 1 multiplier	J: ±5%	

applications and ratings

Part Designation	T.C.R. (ppm/°C) Max.	T.C.R. Tolerance	Resistance Range 2B (0.125W)	Resistance Range 2E (0.25W)	Resistance Tolerance	Rated Ambient Temperature	Operating Temperature Range
MLT	2000	±10%	5.1Ω - 9.1kΩ	—	J: ±5%	70°C	-40°C to +125°C
	2800		—	1KΩ - 4.7kΩ			
	3000		1KΩ - 4.7kΩ	—			
	3300		1KΩ - 4.7kΩ	1KΩ - 7.5kΩ			
	3600		1KΩ - 5.1kΩ	1KΩ - 6.8kΩ			
	3900		1KΩ - 3.3kΩ	1KΩ - 6.2kΩ			

Rated voltage = $\sqrt{\text{Power Rating x Resistance value}}$ or Max. working voltage, whichever is lower.

For further information on packaging, please refer to Appendix A.

1/08/09

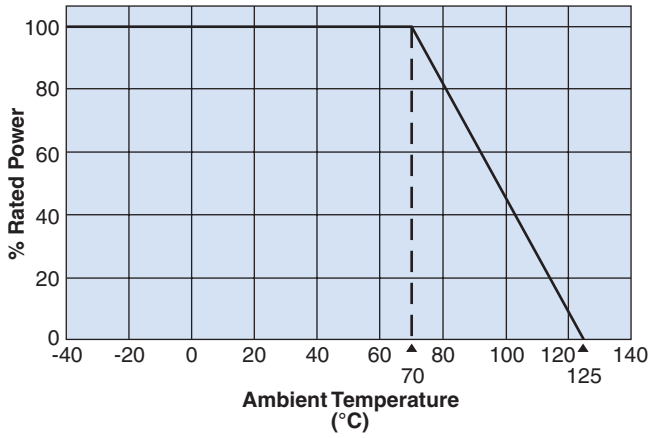
KOA SPEER ELECTRONICS, INC.

MLT

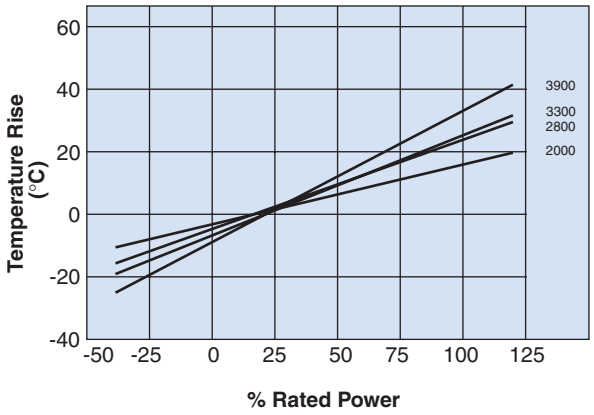
linear positive tempco melf resistor

environmental applications

Derating Curve



Temperature Characteristics of Resistance



Approximate Expression for Resistance-Temperature Characteristics

T.C.R. ($\times 10^{-6}$/K)	C_0	C_1	C_2
3000	0.934	0.00258	2.77×10^{-6}
3300	0.927	0.00282	3.17×10^{-6}
3600	0.921	0.00306	3.58×10^{-6}
3900	0.915	0.00330	4.00×10^{-6}

(Values are not guaranteed but typical) $R_T=R_{25}$ $(C_0+C_1T+C_2T^2)$

R_T: Resistance value at T°C

R_{25}: Resistance value at 25°C

T: Ambient temperature (°C)

C_0, C_1, C_2: Constants

Performance Characteristics

Parameter	Requirement Δ R ±(% + 0.05Ω) Limit	Typical	Test Method
Resistance	Within regulated tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	Room temperature, 50°C up
Overload	±1.0%	±0.75%	Rated power x 2.5 or max. overload voltage for 5 seconds, whichever is less
Resistance to Solder Heat	±1.0%	±0.75%	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±1.0%	±0.75%	-55°C (30 minutes), +125°C (30 minutes), 5 cycles
Moisture Resistance	±3.0%	±2.0%	40°C ± 2°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±3.0%	±2.0%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle