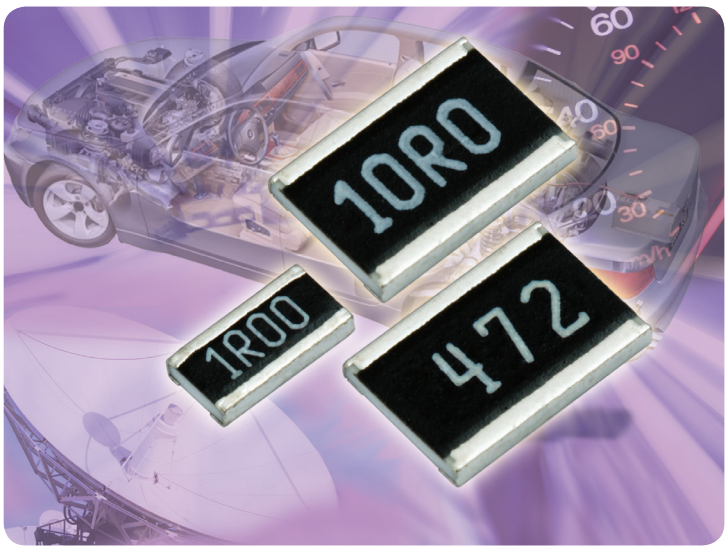
THICK FILM RESISTORS

RCL e3

Resistors - High Power Dissipation Due to Terminals

Long Side Termination
Thick Film Chip Resistors



KEY BENEFITS

- Higher power dissipation due to wider terminals
- Better withstand ability in temperature cycle test
- AEC-Q200 qualified

APPLICATIONS

- All general purpose applications
- Densely populated PCBs
- Automotive electronic circuits
- Industrial equipment
- Telecom infrastructure

RESOURCES

- Datasheet: RCL e3 - http://www.vishay.com/doc?20046
- For technical questions contact thickfilmchip@vishay.com
- Material categorization: For definitions of compliance please see http://www.vishay.com/doc?99912

Pb e3 RoHS COMPLIANT

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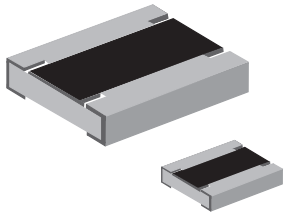

FEATURES

- Enhanced power rating
- Long side terminations
- Enhanced thermo cycling performance in 0406 size
- Pure tin solder contacts on Ni barrier layer, provides compatibility with lead (Pb)-free and lead containing soldering processes
- AEC-Q200 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	CASE SIZE INCH	CASE SIZE METRIC	POWER RATING P_{70} W	LIMITING ELEMENT VOLTAGE $U_{max.}$ AC_{RMS}/DC V	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	SERIES
RCL0406 e3	0406	RR 1016M	0.25	50	± 100	± 1	1R0 to 1M	E24; E96
					± 200	± 5		E24
	Zero-Ohm-Resistor: $R_{max.}$ = 10 mΩ, $I_{max.}$ at 70 °C = 4.0 A							
RCL0612 e3	0612	RR 1632M	0.5	75	± 100	± 1	1R0 to 1M	E24; E96
					± 200	± 5		E24
	Zero-Ohm-Resistor: $R_{max.}$ = 10 mΩ, $I_{max.}$ at 70 °C = 6.0 A							
RCL1218 e3	1218	RR 3246M	1.0	200	± 100	± 1	1R0 to 2.2M	E24; E96
					± 200	± 5		E24
	Zero-Ohm-Resistor: $R_{max.}$ = 20 mΩ, $I_{max.}$ at 70 °C = 7.0 A							
RCL1225 e3	1225	RR 3263M	2.0 (1)	200	± 100	± 1	1R0 to 1M	E24; E96
					± 200	± 5		E24
	Zero-Ohm-Resistor: $R_{max.}$ = 10 mΩ, $I_{max.}$ at 70 °C = 12 A							

Notes

- These resistors do not feature a lifetime limitation when operated within the limits of rated dissipation, permissible operating voltage, and permissible film temperature. However, the resistance typically increases due to the resistor's film temperature over operating time, generally known as drift. The drift may exceed the stability requirements of an individual application circuit and thereby limits the functional lifetime.
- Marking and packaging: See datasheet "Surface Mount Resistor Marking" (www.vishay.com/doc?20020). No marking for 0406 size.
- Power rating depends on the max. temperature at the solder point, the component placement density and the substrate material.

(1) Specified power rating requires dedicated mounting conditions to achieve the required thermal resistance.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RCL0406	RCL0612	RCL1218	RCL1225
Rated Dissipation at P_{70} (2)	W	0.25	0.5	1.0	2.0 (3)
Operating Voltage $U_{max.}$ AC_{RMS}/DC	V	50	75	200	200
Insulation Voltage U_{ins} (1 min)	V	100	100	300	300
Insulation Resistance	Ω	$> 10^9$			
Operating Temperature Range	°C	-55 to +155			
Weight	mg	3.5	11	29.5	55

Revision 15-Apr-13

Notes

(2) The power dissipation on the resistors 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 of 155 °C is not exceeded.

(3) Specified power rating requires dedicated mounting conditions to achieve the required thermal resistance.