CLSA Series

Current Sensing Chip Resistor

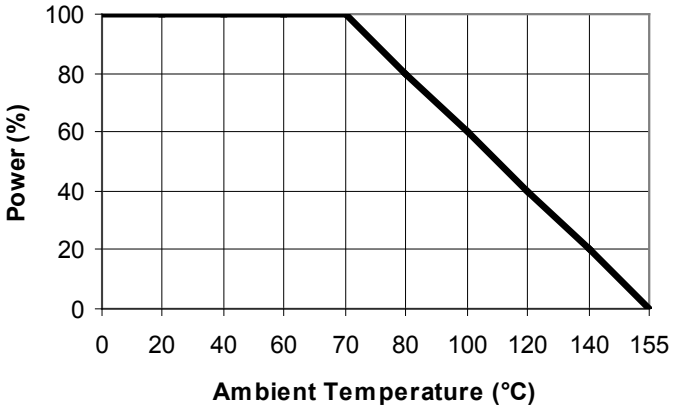


- **AEC-Q200 Compliant**
- **Resistances from 0.01 to 1Ohms**
- **Power Rating to 2 Watt**
- **Resistance Tolerances to ± 1%**
- **TCR's to ±100 ppm/°C**
- **Alumina Substrate for High Power Dissipation**
- **Sizes: 0402 / 0603 / 0805 / 1206 / 2010 / 2512**

SPECIFICATIONS

Type	CLSA0402	CLSA0603	CLSA0805	CLSA1206	CLSA2010	CLSA2512
Standard Power Rating (W)	0.0625	0.1	0.125	0.25	0.75	1.0
"High" Power Rating (W)	0.125		0.25	0.5	1.0	2.0
Standard Resistance Range (Ω)	0.05 to 1.0	0.02 to 1.0		0.01 to 1.0		
"High" Resistance Range (Ω)	0.05 to 1.0					
Temperature Coefficient (depending on ohmic value)	±200 to ±400 ppm	±200 to ±600 ppm ±100 ppm upon request				
"High" Temperature Coefficient (depending on ohmic value)	±200 to ±400 ppm			±200 to ±300 ppm		
Tolerances	1% / 2% / 5%					
Operating Temperature range	-55 to +155°C					
Dimensions (LxW) mm [inches]	1.00 x 0.50 [0.04 x 0.02]	1.60 x 0.80 [0.06 x 0.03]	2.00 x 1.25 [0.08 x 0.05]	3.10 x 1.55 [0.12 x 0.06]	5.00 x 2.50 [0.20 x 0.10]	6.30 x 3.10 [0.25 x 0.12]
Packaging (pcs) Tape and Reel	10,000	5,000			4,000	

Power Derating Curve



Ordering Information

Part Description: Part Type - Resistance - Tolerance - TCR - Packaging - High/Standard Rating
Example: CLSA 2512 0.500Ohms 1% 100ppm HP
(Note: If no TCR is specified the highest value will be supplied. Standard Rating will be given if not specified)

Environmental Characteristics

Test	Requirement	Test Method
Temperature Coefficient of Resistance	As Spec.	-55°C to 125°C, 25°C reference temperature
Short Time Overload	±0.5%+0.05Ω	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	≥10G	Max. overload voltage for 1 minute
Load Life	±1.0%+0.05Ω	70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs “ON” and 0.5 hrs “OFF”
Biased Humidity	±1.0%+0.05Ω	1000hrs 85°C/85% RH 10% of operating power
High Temperature Exposure	±0.5%+0.05Ω	at +155°C for 1000 hrs
Bending Strength	As Spec.	Bending once for 5 seconds with 3mm
Thermal Shock	±0.5%+0.05Ω	-55°C/+155°C. 300 cycles with maximum transfer time of 20 seconds. Dwell time 15 minutes air to air
Solderability	95% min. coverage	245±5°C for 3 seconds
Resistance to Soldering Heat	±0.5%+0.05Ω	260±5°C for 10 seconds
Voltage Proof	No breakdown or flashover	1.42 times RCWV (RMS) for 1 minute
Leaching	Individual leaching area ≤5% Total leaching area ≤10%	260±5°C for 30 seconds
Temperature Cycling	±0.5%+0.05Ω	-55°C to +125°C, 1000 cycles
Moisture Resistance	±1.0%+0.05Ω	24hrs/cycle
Mechanical Shock	±0.25%+0.05Ω	Wave form: Tolerance for half sine pulse Peak value of 100g’s. Normal Duration (D) is 6
Vibration	±0.5%+0.05Ω	5 g’s for 20 min., 12 cycles each of 3 orientations, 10-2000 H
ESD	±1.0%+0.05Ω	Human body, 2KV
Flame Retardance	No Flame Present	Temperature sensing at 500°C, voltage power subjected to 32VDC current clamped up to 500ADC and decreased in 1.0VDC/hour
Resistance to Solvents	Marking Unsmeared	Add Aqueous wash chemical - OKEM Clean or equivalent. Do not use banned solvents.
Terminal strength	Not broken	Force of 1.8kg for 60 second