

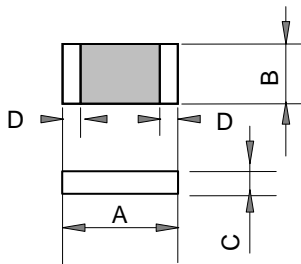
Current Shunt Thick Film Chip
 CLSA0402, CLSA0603, CLSA0805,
 CLSA1206, CLSA2010, CLSA2512



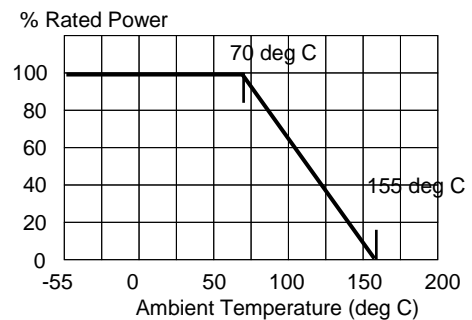
Features and Applications

- Resistances from 20m Ω to 1.0 Ω
- Power Rating 0.0625W to 2 W
- Resistance Tolerances to ± 1%, ± 5%
- TCR's to ± 100 ppm/K to 200 ppm/K
- Thick Film Resistance Element
- Size: 0402 / 0603 / 0805 / 1206 / 2010 / 2512.
- Alumina substrate for heat radiation.
- Applications includes industrial measurement, control electronics and automatic test equipment.

Dimension Specifications (mm)

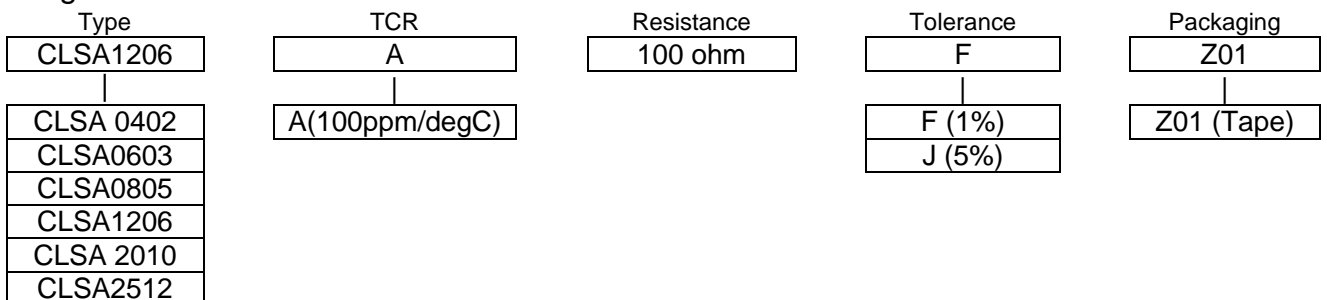


Power Derating



mm (inch)	CLSA0402	CLSA0603	CLSA0805	CLSA1206	CLSA2010	CLSA2512
Power Rating (W)	0.0625	0.1	0.125	0.25	0.75	1.0
Resistance, Min.(Ω)	0.05	0.02	0.02	0.01	0.01	0.01
Resistance, Max. (Ω)	1.0	1.00	1.00	1.00	1.00	1.00
TCR (ppm/K)	200 - 400	200 - 600	200 - 600	200 - 600	200 - 600	200 - 600
Tolerance	1%, 5%	1%, 5%	1%, 5%	1%, 5%	1%, 5%	1%, 5%
Operating Temp (°C)	-55 to +155	-55 to +155	-55 to +155	-55 to +155	-55 to +155	-55 to +155
A	1.00(0.04)	1.60 (0.06)	2.00 (0.08)	3.10 (0.12)	5.00 (0.20)	6.30 (0.25)
B	0.50(0.02)	0.80 (0.03)	1.25 (0.04)	1.55 (0.06)	2.50 (0.10)	3.10 (0.12)
C	-----	-----	-----	-----	-----	-----
D	-----	-----	-----	-----	-----	-----
Packaging (pcs) T&R	10,000	5,000	5,000	5,000	4,000	4,000

Ordering Information



Current Shunt Thick Film Chip

1210, 1216, 2010, 2040, 2512, 4020

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, 10-2000Hz
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 Unsmearred	Add Aqueous wash chemical - OKEM Clean or equivalent. Do not use banned solvents.
Terminal Strength	Not broken	Force of 1.8kg for 60 seconds