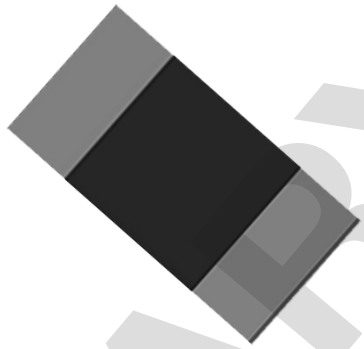
Molded Precision Current Sense Shunt Resistor

with TCR down to ±25ppm/°C, Tightest Tolerance of ±0.5%, Excellent long-term stability, AEC-Q200 Qualified

FEATURES

- Resistance values: 10 mΩ to 100 mΩ
- Tolerance: to ±0.5%
- Temperature coefficient of resistance (TCR): to ±25 ppm/°C (-55°C to + 125°C, +20°C)
- Load life stability: ±0.2% typical, at +70°C, 2000 h (rated power)
- Thermal EMF: <3uV/°C
- Nickel – Chrome Resistive Element
- AEC-Q200 qualified



Pb-free Available

RoHS* COMPLIANT

KEY APPLICATIONS

- Automatic Test Equipment (ATE)
- Test & Measurement systems
- Industrial
- Weighing system
- Switching and linear power supplies
- Precision current-sensing
- Battery Management Systems
- Power amplifiers
- Medical
- Automotive

FIGURE 1—POWER DERATING CURVE

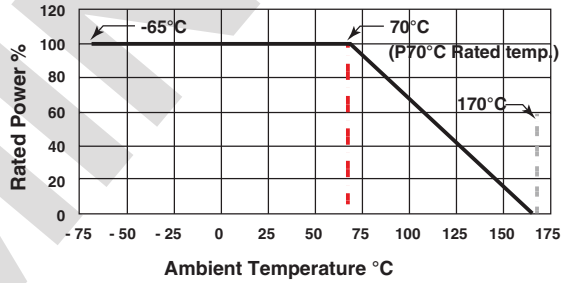
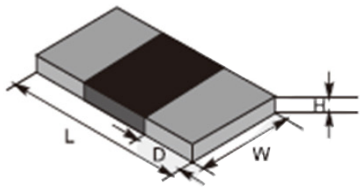


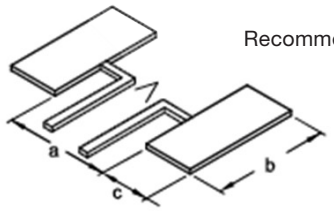
TABLE 1 - SPECIFICATIONS

PARAMETER	CSM2512RS
Resistance Range	10 mΩ to 100 mΩ
Power Rating at 70°C	1 W
Tolerance	±0.5%, ±1%, ±2%
Temperature Coefficient Max. (–55°C to +125°C, +20°C Ref.)	± 25ppm/°C
Operating Temperature Range	-65°C to +170°C
Packaging	Tape & Reel 4000pcs/reel

FIGURE 2 – DIMENSIONS in mm



Recommended Land Pattern



L	W	H	D	a	b	c
6.40±0.2	3.2±0.2	0.8±0.1	0.8±0.2	3.6±0.1	3.6±0.1	2.0±0.1

TABLE 2 - PERFORMANCE SPECIFICATIONS

Test Item	Test Method	Standard	Typical	Maximum
Short-time overload	5x rated power for 5s, measured 24±2h after test	MIL-STD-202 Method 201	±0.1%	±0.3%
High temp. storage	+170°C, 1000h, no load, measured 24±2h after test	MIL-STD-202 Method 108	±0.2%	±0.5%
Moisture resistance	T=24h/cycle, no load, 7a and 7b not required, measured 24±2h after test	MIL-STD-202 Method 106	±0.02%	±0.05%
Load life	+70°C, 2000h, rated power, measured 24±2h after test	MIL-STD-202 Method 108	±0.2%	±0.5%
Resistance to soldering heat	+260°C±5°C, 10s±1s, measured 24±2h after test	MIL-STD-202 Method 210	±0.05%	±0.3%
Thermal shock	–55°C~+125°C, 1000 cycles measured 24±2h after test	JESD22 Method JA-104	±0.1%	±0.5%
High temp. & high humidity	+85°C, 85%RH, 10% of rated power, 1000h, measured 24±2h after test	MIL-STD-202 Method 103	±0.05%	±0.3%
Solderability	+235°C±5°C, 2s±0.5s	J-STD-202	95% covered	

ORDERING INFORMATION

Example: CSM2512RSFR100P9 (CSM2512RS ±1.0% 100 mΩ ±25ppm/'C marked resistor)