

CST Series Datasheet

SMD Power Shunt resistor
Current Sensor Open Frame

ORDERING CODE - Example

CST	272	F	K	-	13-	R001	AA
Type	Size	Tol.	Pack- Code	TC	Reel diam.	* R Value	
	121=1216 272=2725	F = ±1% H = ±3% J = ±5%	Blister tape	Base on spec.	07- inch 13- inch	L = mΩ	AA = Standard

*0.2 mΩ to 5 mΩ there are 3~4 digits indicated the resistance value. Letter R/L is decimal point (L2 = 0.0002Ω, R001 = 1mΩ)

APPLICATIONS



Automotive



Industrial



Power & Energy

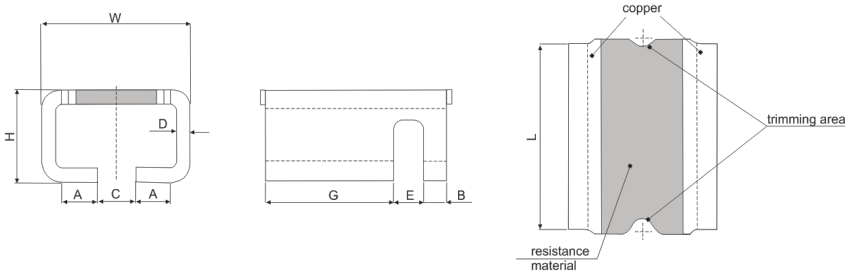
FEATURES

- Suitable for automatic pick and place
- 4 – Terminals connection
- Excellent long-term stability
- AEC-Q200 qualified
- Suitable for mounting on DCB/IMS substrate
- RoHS & REACH Compliant

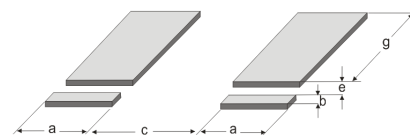
ELECTRICAL SPECIFICATIONS

Type / Size		CST121	CST272
Nominal Power Rating (For details information check table below)	P ₇₀	Up to 7,0	Up to 12,0
	P ₁₀₀	Up to 5,0	Up to 5,0
Resistance Value (Preferred values)	[Ω]	R0005, R001	R0002, R0003, R0005, R0007, R001, R002, R003, R004, R005
Tolerances	±[%]	F = 1% ; H = 3% ; J = 5%	
Temperature Range	[°C]	-55 ... +170	-65 ... +170
Thermal Resistance	[KW ⁻¹]	8	15
Temperature Coefficient	±[10 ⁻⁶ *K ⁻¹]	<50	
Inductance	[nH]	< 2 (theoretical value)	< 3 (theoretical value)

DIMENSIONS [mm]



PCB Layout (Solder pad):



Type	L	H	W	A	C	G	B	E	D
CRS121	4,0 +0,1/-0,2	1,9 -0,35	3,1 -0,35	0,74 ±0,01	0,8 +0,3	2,8 ±0,1	0,5 ±0,1	0,6 +0,15	0,3 ±0,1
CRS272	6,6 +0,35/-0,2	3,6 +0/-1	6,9 ±0,2	1,4 ±0,2	3,1	4,9	0,8 -0,2	0,9 +0,2	0,4 ±0,1

Type	a	c	b	e	g
CRS121	1,15	0,6	0,7	0,5	2,95
CRS272	2,5	2,4	0,9	0,9	5,6

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PERFORMANCE DATA

Temperature Cycling <i>IEC60115-1 clause 4.19 and IEC60068-2-14 (30 [min] -55 [°C] and 30 [min] +150 [°C], 2.000 [cycles])</i>	± [%]	0,5
Low Temperature Storage and Operation <i>IEC60115-1 clause 4.36 (250 [h] -65 [°C])</i>	± [%]	0,1
Resistance to soldering heat <i>IEC115-1 clause 4.18 (260^{±3} [°C], 10[s], steam aging 8[h])</i>	± [%]	n.a.
Moisture resistance <i>Mil-STD-202, method 106</i>	± [%]	0,1
Mechanical Shock <i>Mil-STD-202 Method 213 (Method C, peak value 100 [g], 6[ms], Half sine)</i>	± [%]	0,2
Vibrations <i>Mil-STD-202 Method 204 (10 to 2000 [Hz], 10 [g], 24 [h] each axis)</i>	± [%]	0,2
Operational life <i>MIL-STD-202, method 108 CST1216 (t=130 [°C], 2.000[h, rated power]) CST2725 (t=140 [°C], 2.000[h, rated power])</i>	± [%]	1,0
High Temp. Exposure <i>MIL-STD-202 Method 108 (170[°C], 2.000 [h], unpowered)</i>	± [%]	1,0 (in covered condition for CuMn7Sn ; CuMn12Ni)
Biased Humidity <i>MIL-STD-202 Method 103 (85[°C], 85[%RH] 1.000[h])</i>	± [%]	0,5

ELECTRICAL SPECIFICATIONS

Size	Value [mΩ]	Resistance values	Material	Power Rating		Resistive alloy TCR [ppm]
				P ₇₀ [W]	P ₁₀₀ [W]	
CST121	0.5	L5	Copper Manganese 38 Alloy	7	5	<±10
	1.0	R001	Copper Manganese 43 Alloy	4	3	

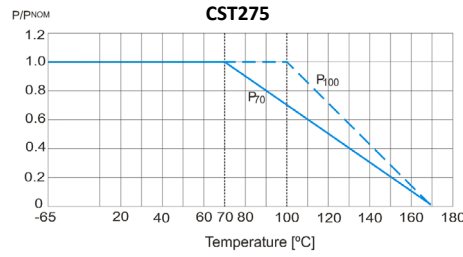
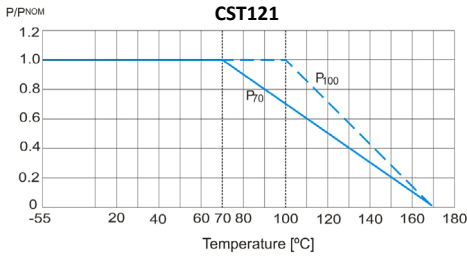
Size	Value [mΩ]	Resistance values	Material	Power Rating		Resistive alloy TCR [ppm]
				P ₇₀ [W]	P ₁₀₀ [W]	
CST272	0.2	L2	Copper Manganese MC2Alloy	12	5	<50
	0.3	L3	Copper Manganese 38 Alloy	10	5	
	0.5	L5	Copper Manganese 38 Alloy	9	5	
	0.7	L7	Copper Manganese 43 Alloy	8	4	
	1.0	R001	Copper Manganese 43 Alloy	7	4	<50
	2.0	R002	Aluchrom Alloy	7	4	
	3.0	R003	Aluchrom Alloy	5	3	
	4.0	R004	Aluchrom Alloy	4	2	
5.0	R005	Aluchrom Alloy	3	2		

Note: Please contact with sales offices, distributors and representatives in your region before ordering.

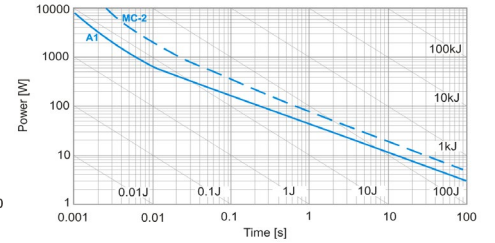
CST Series Datasheet

PERFORMANCE GRAPHS

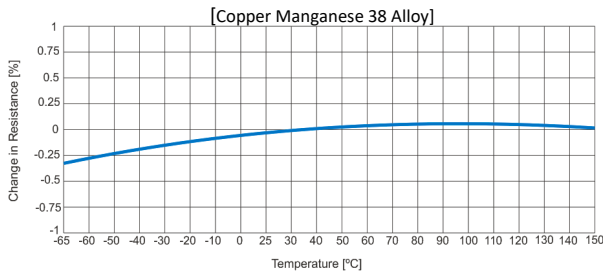
Power Derating Curve



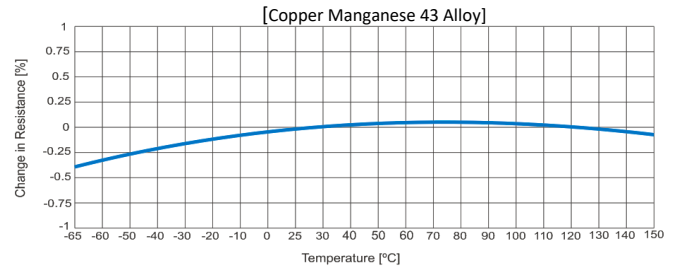
Pulse Power Curve



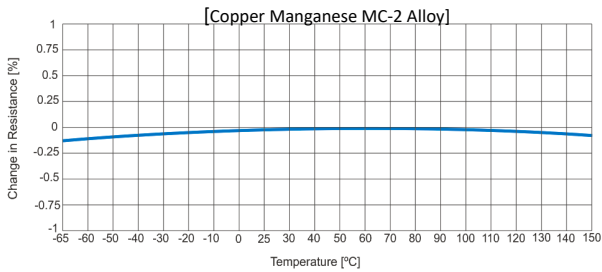
Resistance Change vs Temperature



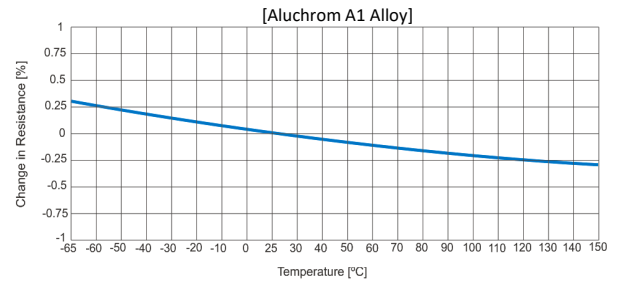
Resistance Change vs Temperature



Resistance Change vs Temperature

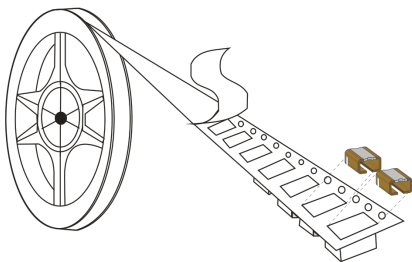


Resistance Change vs Temperature



PACKAGING

The standard packaging for CST dimensions below:



Tape and reel information			
Specification : IEC60286-3			
Type	Tape width [mm]	Reel size [inch]	SPQ
CST121	12	07	3000
CST272	16	13	1400

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

YAGEO:

[CST121FK-07-L5AA](#) [CST272FK-13-R001AA](#)