

## CSD Series Datasheet

Power shunt resistor  
Battery management Precision Resistor

### APPLICATIONS



Automotive



Industrial



Power & Energy

### FEATURES

High Conductivity Copper Terminals

High current and pulse load capability

Custom made Shunts available

Tinned Terminals available on request

Excellent Long-term Stability

AEC-Q200 qualified

RoHS and REACH Compliant

### ORDERING CODE - Example

CSD	842	J	V	-	AX-	L05	AA
Serie	Size	Tol.	Pack-Code	TC	Forming type	* R Value	Special
	842=8420 851=8518 853=8536	J = ±5% K = ±10%	V = Vacuum packed in plastic bags.	Base on spec.		L = mΩ	AA = Standard

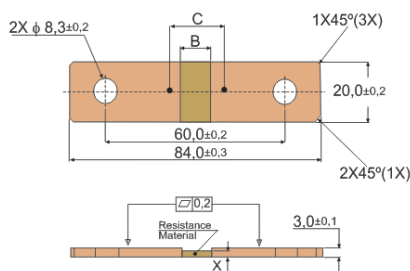
\*0.05 mΩ to 5 mΩ there are 3~4 digits indicated the resistance value. Letter R/L is decimal point (0L05 = 0.05mΩ, 0R001 = 1mΩ)

### TECHNICAL DATA

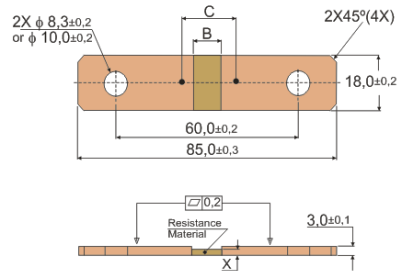
Type / Size		CSD842	CSD851	CSD853
Nominal Power Rating $P_{70}$	[W]	36	36	50
Resistance Range (Preferred values)	[Ω]	R00005, R0001, R0002, R00025, R0005, R001	R00005, R0001, R000125, R0002, R00025	R00005, R0001
Tolerances	±[%]		J = 5% ; K = 10%	
Temperature Coefficient	[ppm/°C]		<±10 (copper manganese alloys) <-25 (Aluchrom alloy)	
Operating Temperature Range	[°C]		-55 ... +170	
Inductance	[nH]		< 1	
Max. working voltage	[V] <sub>RMS</sub>		$\sqrt{P_{70} \times R}$	

### DIMENSIONS [mm]

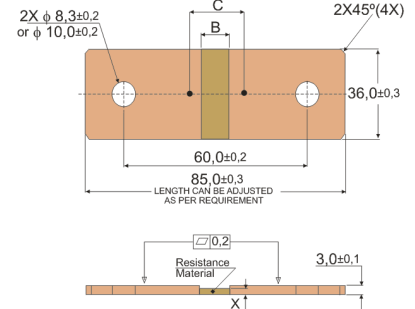
Type: CSD842



Type: CSD851



Type: CSD853



Size	Value [mΩ]	Resist. values	Dimensions			Material
			X ±0,2	B ±0,5	C ±0,2	
CSD 842	0.05	L05	2,2	5,0	8,2	Copper Manganese Alloy
	0.10	L1	2,2	10,0	13,2	
	0.20	L2	2,0	18,0	21,2	
	0.25	L25	2,0	23,0	26,2	
	0.50	L5	2,0	14,0	17,2	Aluchrom Alloy
	1.00	R001	2,0	28,0	31,2	

Size	Value [mΩ]	Resist. values	Dimensions			Material
			X ±0,2	B ±0,5	C ±0,2	
CSD 851	0.05	L05	2,2	4,5	7,7	Copper Manganese Alloy
	0.10	L1	2,2	9,0	12,2	
	0.125	L125	2,0	10,3	13,5	
	0.20	L2	2,0	16,5	19,7	
	0.25	L25	2,0	21,0	24,2	

Size	Value [mΩ]	Resist. values	Dimensions			Material
			X ±0,2	B ±0,2	C ±0,2	
CSD 853	0.05	L05	2,2	9,0	12,2	Copper Manganese Alloy
	0.10	L1	2,0	16,5	19,7	

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

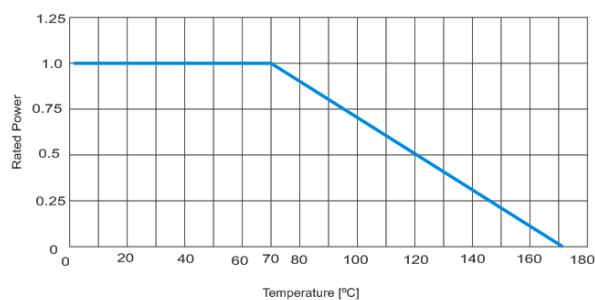
# CSD Series Datasheet

## PERFORMANCE DATA

Type		CSD842	CSD851	CSD853
Endurance IEC60115-1 clause 4.25 (P70 @ 70[°C], 1000[h])	±[%]		1,0	
Short Time Overload ( $U=5 \cdot \sqrt{P_{70} \times R}$ , 5[s])	±[%]		1,0	
Resistance to Soldering Heat IEC60115-1 clause 4.18 and Mil-STD-202 Method 210 (260[°C], 10[s])	±[%]		0,5	
Low Temperature Storage -65[°C] 24[H]	±[%]		0,2	
High Temperature Exposure Mil-STD-202 Method 108 +170[°C] 1000[H]	±[%]		1,0	
Rapid change of temperature IEC60115-1 clause 4.19 and IEC60068-2-14 (30 [min] -55 [°C] and 30 [min] +150 [°C])	±[%]		0,5	
Biased Humidity MIL-STD-202 Method 103 (85[°C], 85[%RH] 1.000[h])	±[%]		0,5	
Vibrations Mil-STD-202 Method 204 (10 to 2000 [Hz], 5 [G] for 20 [min], 12 cycles, each of 3 orientation)	±[%]		0,2	
Mechanical Shock Mil-STD-202 Method 213 (100 [G] for 6[ms], Half sine)	±[%]		0,2	
Solderability IEC60068-2-20 and J-STD-002		Solder bath method (> 95% coverage)		
Marking IEC60062		Value imprinted		
Stability Deviation * T <sub>t</sub> = Terminal Temperature	±[%]	< 0.5 after 2000 Hours, * T <sub>t</sub> = 110°C		
		< 1.0 after 2000 Hours, * T <sub>t</sub> = 140°C		

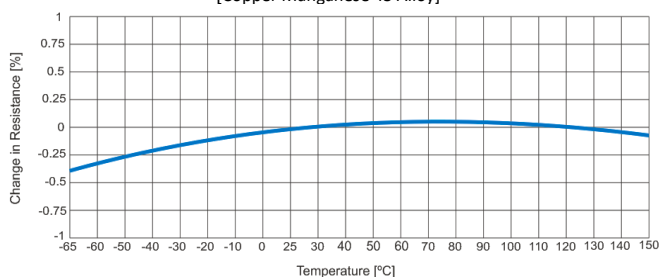
## PERFORMANCE GRAPHS

**Power Derating Curve**



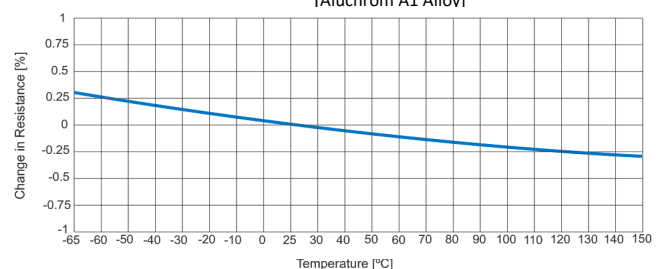
**Resistance Change vs Temperature**

[Copper Manganese 43 Alloy]



**Resistance Change vs Temperature**

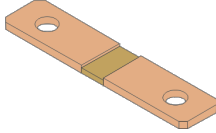
[Aluchrom A1 Alloy]



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## PACKAGING

The standard packaging for CSD dimensions below (blister tape [mm]).



Size	Packaging	SPQ	Pack Code
CSD842 ; CSD851 and CSD853	vacuum packed in plastic bags	100	V
Customized packing available on request			