

Current Sensing Resistors

Using advanced welding techniques and nickel alloys these resistors have a long term stability of less than 50ppm/°C. The simple four port Kelvin design ensures easy installation on large current bus bars. Current of 170A(0.1mΩ-3W), 100A(0.1mΩ-2W) and 350A(0.1mΩ-14W) are standard. Applications include: Current detection in precise power sources, constant current sources, industrial power conversion circuits, HEVs, fuel cells and constant electronic loads.



GENERAL SPECIFICATIONS

Model	Power Rating[W]	Resistance[Ω]	Resistance Tolerance(%)
TCS2	2	0.1m-0.5m	F [±1.0]
TCS3	3		J [±5.0]
TCS14	14	0.1m	J [±5.0]

CHARACTERISTICS

TEST	TCS2	TCS3	TCS14
Temperature Range			-55°C~+125°C
Temperature Storage			-55°C~+125°C
Temp. Coefficient	0~80ppm/°C		±50ppm/°C
Overload	2KW for 0.1sec.	3KW for 0.1sec.	5 X Power rating 5 sec.
Inductance	15nH	17nH	3nH

DIMENSIONS [mm]

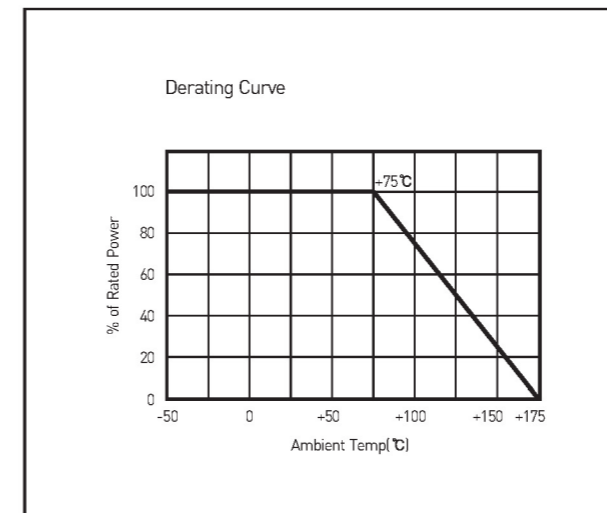
Model	Dimensions [mm]						
	A	B	C	D	E	F	G
TCS2	50.0	12.0	2.0	35.0	See Below	6.2	3.2
TCS3	55.0	15.0	2.0	40.0		6.2	0.8
TCS14	84.0	20.0	3.0	66.0		8.3	0.8

Model	Dimensions of E [mm]				
	0.1mΩ	0.2mΩ	0.3mΩ	0.4mΩ	0.5mΩ
TCS2	5.6	7.7	9.6	11.6	14.0
TCS3	7.0	9.6	12.0	14.5	17.5
TCS14	9.0	N/A	N/A	N/A	N/A

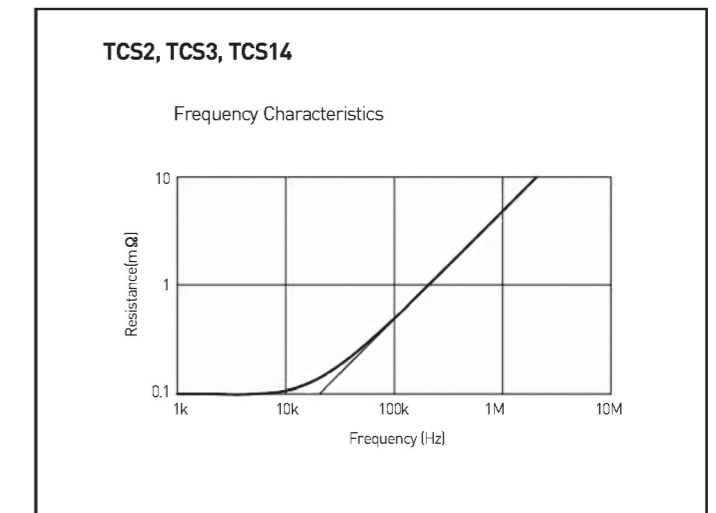
CURRENT RATING

Resistance	0.1mΩ	0.2mΩ	0.3mΩ	0.4mΩ	0.5mΩ
TCS2	141.4A	100.0A	81.6A	70.7A	63.2A
TCS3	173.2A	122.4A	100.0A	86.6A	77.4A
TCS14	350A	N/A	N/A	N/A	N/A

DERATING CURVE



FREQUENCY CHARACTERISTICS



RECOMMENDATION

Note:

- When TCS2,3 current detector is attached to current bus, mechanical strain shall be rejected from the resistor as shown in above illustration.
- Resistance shall be made by calculating from DC voltage on detecting terminal at application of current through current terminals.
- Voltage output Copper pins shall be contacted to Copper terminals of resistor

ORDERING PROCEDURE EXAMPLE

