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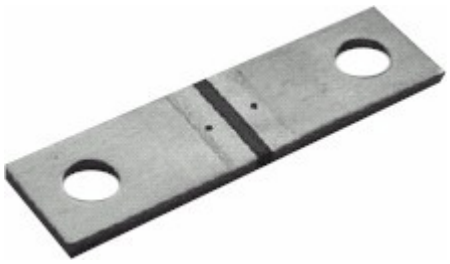
Resistors And
Resistive Applications

TCS 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 busbars. Currents of 170A (0.1mR & 3W), 100A (0.1mR & 2W) and 350A (0.1mR & 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

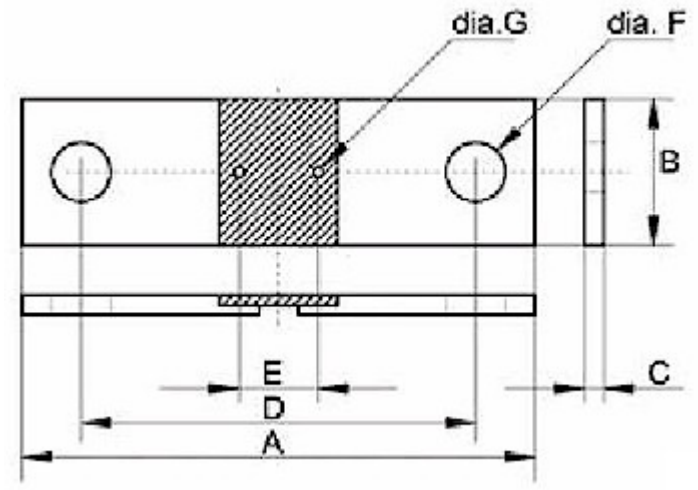
Model	Power Rating [W]	Resistance Range [Ω]	Tolerance
TCS2	2	0.1m - 0.5m	+-1.0%(F), +-5.0%(J)
TCS3	3		
TCS14	14	0.1m	+-5.0%(J)

CHARACTERISTICS

Values in [ ] mean change in ohmic value after test

Model	TCS2	TCS3	TCS14
Temperature Range	-55 to 125C	-55 to 125C	-55 to 125C
Temperature Storage	-55 to 125C	-55 to 125C	-55 to 125C
Temperature Coefficient	0-80ppm/C	0-80ppm/C	0-50ppm/C
Overload	2KW for 0.1 sec.	2KW for 0.1 sec.	2KW for 0.1 sec.
Inductance	15nH	17nH	3nH

DIMENSIONS



Model	Dimension [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

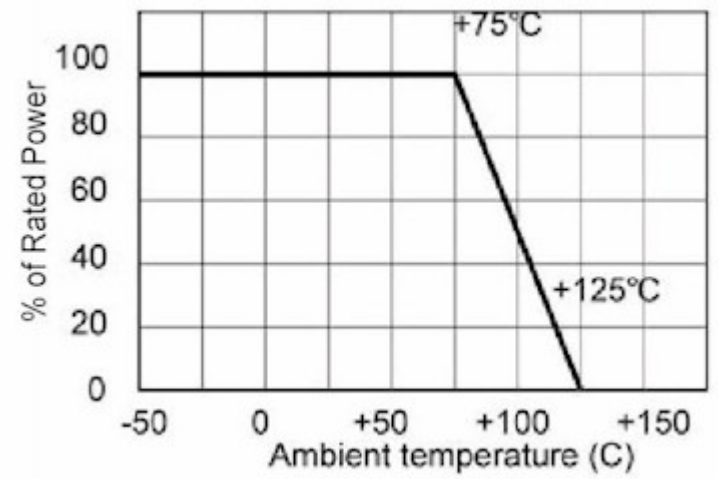
DIMENSIONS OF "E"

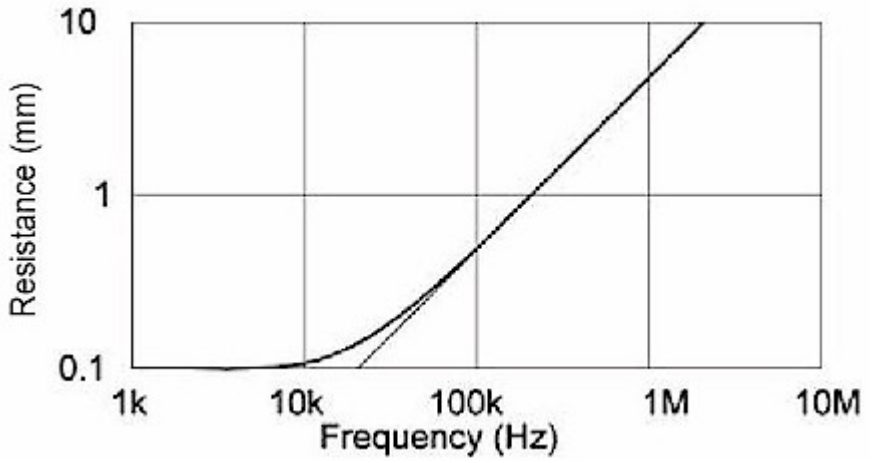
Model	Dimension [mm]				
	0.1mR	0.2mR	0.3mR	0.4mR	0.5mR
TCS2	5.6	7.7	9.6	11.6	11.6
TCS3	7.0	9.6	12.0	14.5	14.5
TCS14	9.0	N/A	N/A	N/A	N/A

CURRENT RATING

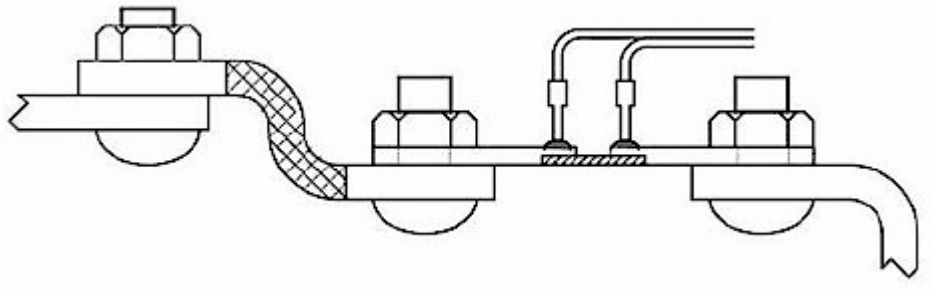
Model	Resistance				
	0.1mR	0.2mR	0.3mR	0.4mR	0.5mR
TCS2	141.1A	100.0A	81.6A	70.7A	63.2A
TCS3	173.2A	122.4A	100.0A	86.6A	77.4A
TCS14	350A	N/A	N/A	N/A	N/A

DERATING AND FREQUENCY CHARACTERISTICS FOR TCS2 & TCS3





RECOMMENDED INSTALLATION



Notes:

1. When TCS2, 3 is attached to a current bus, mechanical strain should be avoided.
2. Resistance is calculated using DC voltage on detecting terminal at application of current through current terminals.
3. Voltage out copper pins should be attached to the copper terminals of the resistor.

ORDERING PROCEDURE EXAMPLE