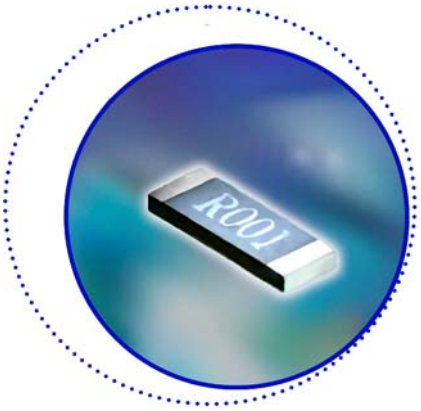
8W CURRENT DETECT CHIP RESISTORS



Features

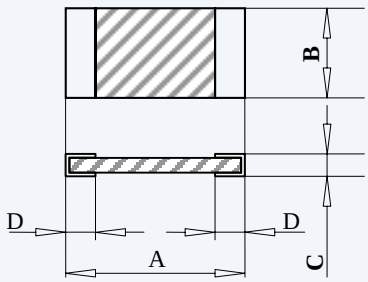
- Non inductive design.
- Low TCR, typically less than 30ppm/°C.
- Low profile surface mount package.
- Excellent pulse/surge performance.
- 8W power rating.

Applications

- Current sense applications
- Over current protection in Battery chargers.
- Servo motor control circuits.
- DC-DC, DC-AC and intelligent power modules.
- Industrial PC modules (IPM) and precision measurement systems.
- Current detection circuits in high-speed CPU peripherals.

Specification

Dimensions (mm)



Type	BCS8 (mm)
A	12.8+/-0.5
B	6.4max
C	2.5max
D	1.3

Marking

Marking is done by 3 digits resistance value notation and tolerance code F (1%).

R001F

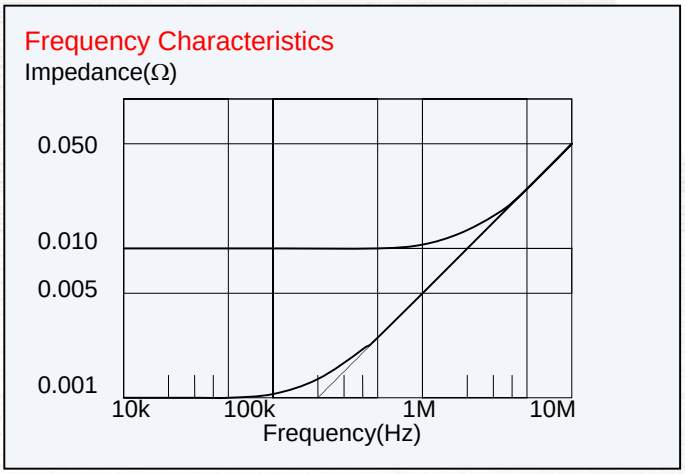
Specification

	BCS8	Remarks
Resistance values	0.5m, 1m, 2m, 3m, 4m, 5m , 10mΩ	
TCR	+/-50ppm/°C	Measured +/- 30ppm/ °C
Tolerance	+/-1.0% (F), +/-5.0% (J)	
Power Rating	8W	Attached to70 micron PCB
Current Rating	90A	At 1m Ω
Maximum Current	126A	2.5 seconds one time
Series Inductance	5nH	
Operating Temp.	-55 C to 175 °C	
Storage Temp.	-55 C to 175 ° C	

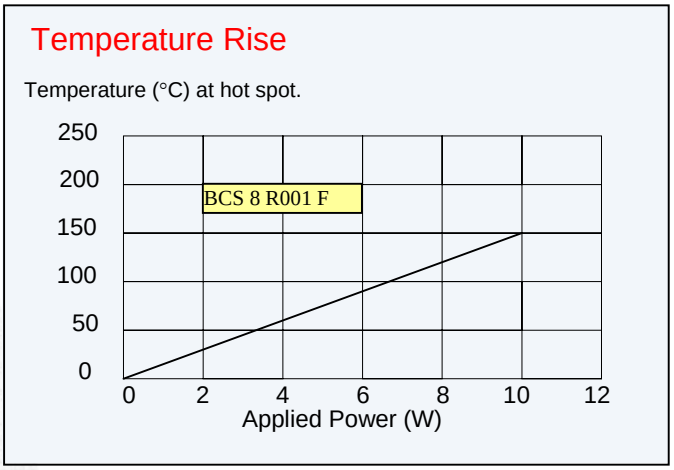
	Specifications	Conditions
Short Time Overload	ΔR+/-(0.5%+0.5mΩ)	maximum current, 2.5seconds.
Low Temperature Storage	ΔR +/-(0.5%+0.5mΩ)	-55C, 24hours
High Temperature Storage	ΔR +/-(1.0%+0.5mΩ)	+175C, 1000hours
Heat Shock	ΔR +/-(0.5%+0.5mΩ)	-55C to +125C, 20min. interval, 5min. 5cycles
Vibration	ΔR +/-(0.5%+0.5mΩ)	10-2000Hz, 1.5mm/20gr, 2hours
Soldering Heat	ΔR +/-(0.25%+0.5mΩ)	260°C+/-5°C, 10+/-1 seconds.
Solderability	90%/terminal surface	
Humidity	ΔR +/-(0.5%+0.1mΩ)	85°C, 85%RH, dc0.1W, 1000 hours
Load Life	ΔR +/-(0.5%+0.1mΩ)	25°C, dc rated power, 90min ON, 30min OFF, 1000hours

Specifications subject to change without notice.

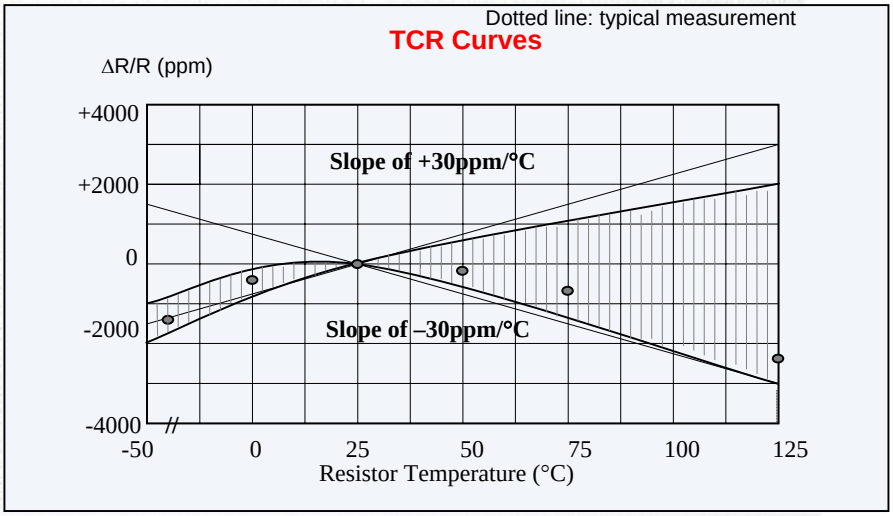
Frequency Characteristics



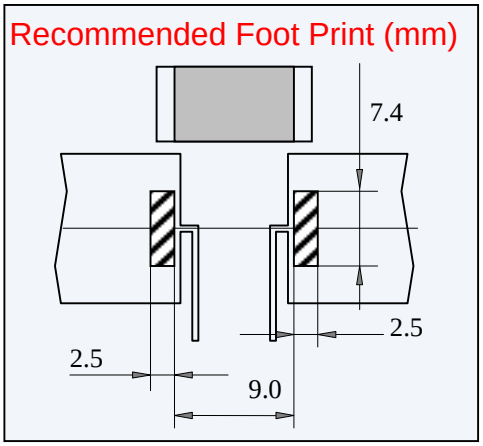
Temperature Rise



TCR Curves



Recommended Foot Print (mm)



Soldering Recommendation

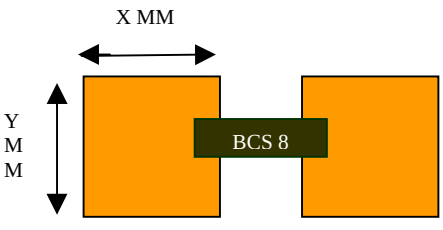
Due to the enhanced heat dissipation properties of the BCS8, the temperature profile during reflow soldering will need to be increased by: 10 to 20°C.

Custom designs

Alternative widths and lengths are available, please contact factory for details.

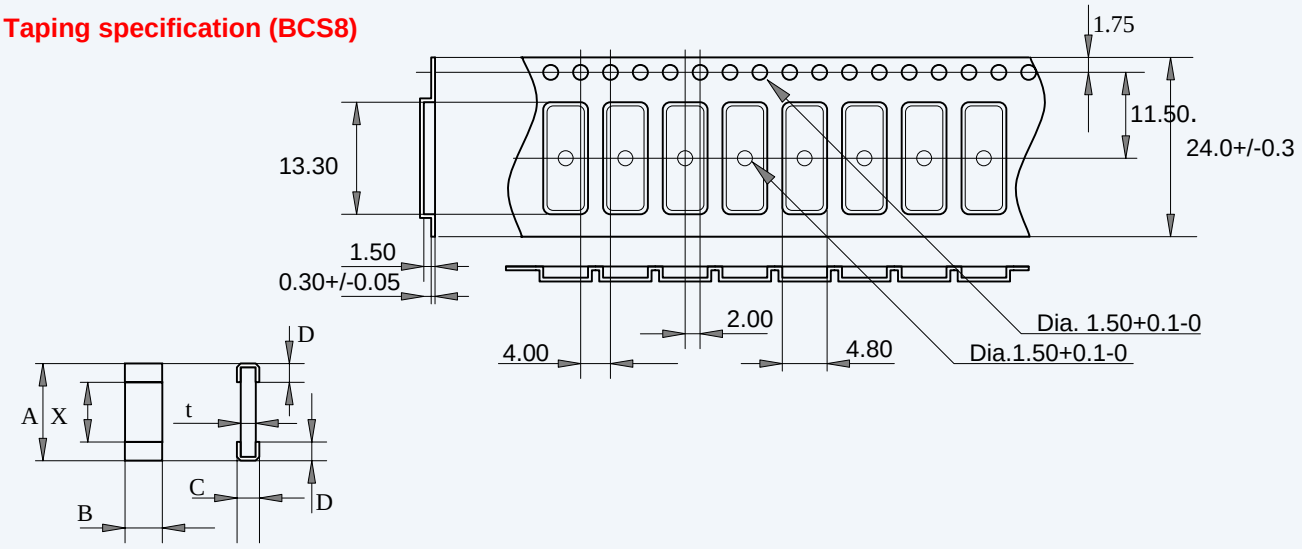
FR4 Thermal PCB Characterisation

Pad Dimensions (x,y mm)	$P_{90\,°C,\ 70um}$ (W)	$P_{90\,°C,\ 35um}$ (W)
60, 45	5.8	4.6
50, 45	5.4	4.3
40, 40	4.2	4.1
30, 30	3.5	2.8
20, 20	2.9	2.7
10, 10	2.4	2.5



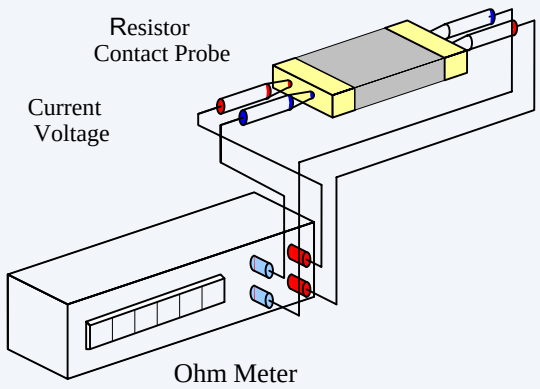
Notes: Characterisation carried out using 70µm and 35µm PCB copper pad weights, with the temperature of 90°C used as a maximum reference on the PCB.

Taping specification (BCS8)



P/N	A/NA	A	B	C	D	X	t
BCS8 R001F	A	12.8	4.0	1.14	1.4	10.0	1.0
BCS8 R002F	A	12.8	4.0	0.64	1.4	10.0	0.5
BCS8 R003F	A	12.8	2.7	0.64	1.4	10.0	0.5
BCS8 R003F	A	12.8	4.5	0.44	1.4	10.0	0.3
BCS8 R004F	NA	12.8	5.3	0.34	1.4	10.0	0.2
BCS8 R005F	A	12.8	4.4	0.34	1.4	10.0	0.2

Note : Above dimensions are approximate.



Resistance testing the BCS resistors is done at the side positions of resistor terminals (see figure) using a 4 - port measuring system.
For a stated resistance tolerance of +/-1.0%, the measured values should be within the +/-0.8% factory tested values.
When surface mount resistor is attached on circuit board, small resistance changes will occur, Custom designs are available, please call the factory.

Ordering Information

BCS	8	R001	F

Model

Power Rating
8 : 8W

Resistance Code
R001: 0.001Ω

Tolerance
J = 5% Tol
F = 1% Tol