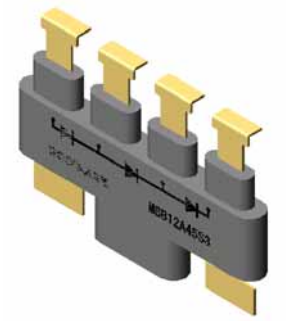
Bypass Diode Module for Solarcell
(Schottky Barrier Diode Type)

Reverse Voltage 45V
Forward Current 12A

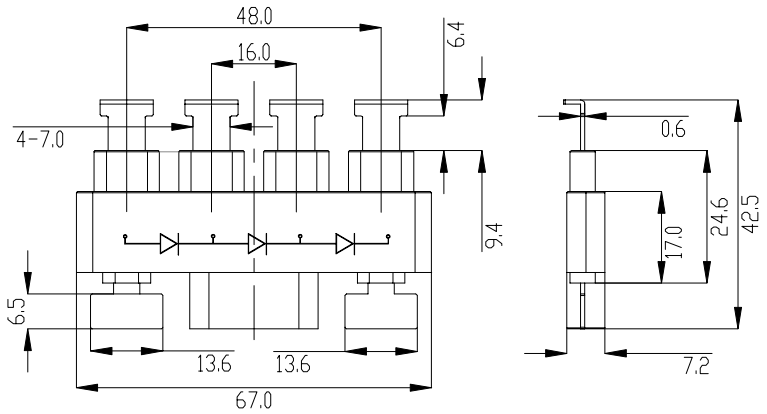


Outline Drawing

internal schematic diagram

Features

- ◆ Low thermal resistance
- ◆ Low forward voltage drop,low power loss
- ◆Compact outline design
- ◆ Excellent anti-humidity
- ◆ High current capability
- ◆ High forward surge capability
- ◆ RoHS compliance



Dimensions in millimeters

Mechanical Data

Case: plastic body
Terminals: Sn plated leads

Typical Applications

◆ For use in solar cell junction box as bypass diodes for protection, using DC forward current without reverse bias.

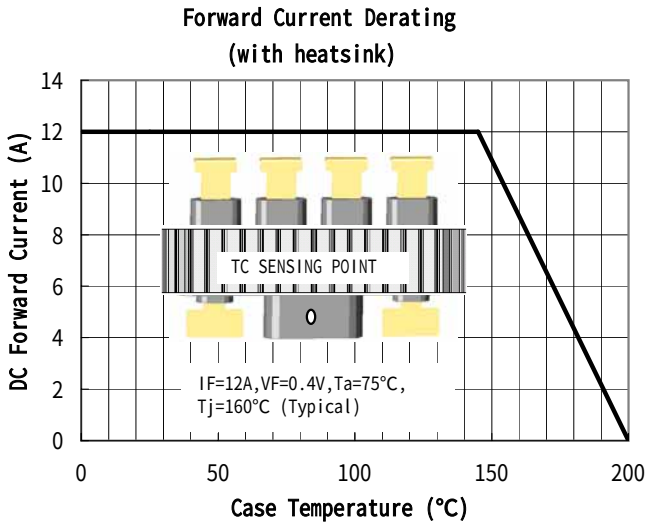
Maximum Ratings & Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified

Parameter	Symbol	MSB12A45S3L	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Working peak reverse voltage	V_{RwM}	45	V
DC output current (Tc=145°C,with special heatsink)	I_F	12	A
Surge forward current 1cycle,60HZ,peak value,non-	I_{FSM}	400	
Repetitive peak reverse current (V_R=V_{RRM})	$I_{RRM\ (Max)}$	0.8	mA
Forward voltage drop I_F=12A,Inst measurement	$V_{FM\ (Max)}$	0.43	V
Typical thermal resistance (junction to case,with heatsink)	Rθjc	1.2	°C/W
Operating junction temperature range(VR≤80%VRRM)	T_J	−55 to+125	°C
Junction temperature in DC forward current without reverse bias		200	°C
Storage temperature	Tstg	−55 to+150	°C
Isolation voltage AC. 1minute	V_{ISO}	6000	V
Mass (typical value)		23	g

Ratings & Characteristics Curves

(Ta=25℃ unless otherwise noted)



Notes:

Mounted on junction box

Using DC forward current