

Solar Module Components

In-laminate bypass diodes for PV solar module

Ta=25°C

P/N, <i>Note 1</i>	Package Type <i>Note 2</i>	I _F (A)	V _F (V)	V _R (V)	I _R (μA)	max T _J (°C) DC mode	ESD HBM (KV)	Lead Solder preformed
SBM1240CN	Plastic mold	12	0.47	40	21	200	12	Available <i>Note 3</i>
SBF1245CN	Metal	12	0.47	45	21	200	12	
SBF1545CN	Metal	15	0.51	45	20	200	12	
SBF1560DN	Metal	15	0.79	60	2	200	8	
SBF2045CN	Metal	20	0.51	45	50	200	15	

Note 1 - Part numbering

S B F 15 45 C N

① ② ③ ④ ⑤ ⑥

① Device type, SB = Schottky Barrier Diode

② Package type, M = Plastic mold thin package
F = Metal thin package

③ Forward current rating, Amperes

④ Reverse voltage rating, Volts

⑤ Junction temperature, A = 150 °C

B = 175 °C

C = 200 °C

D = 200 °C , Low leakage I_r

⑥ Solder preform orientation, D = Cathode facing down

U = Cathode facing up

N = None solder preform

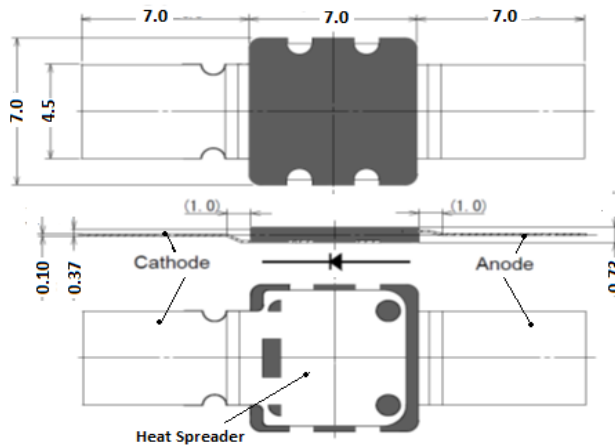


Solar Module Components

Note 2 Package type

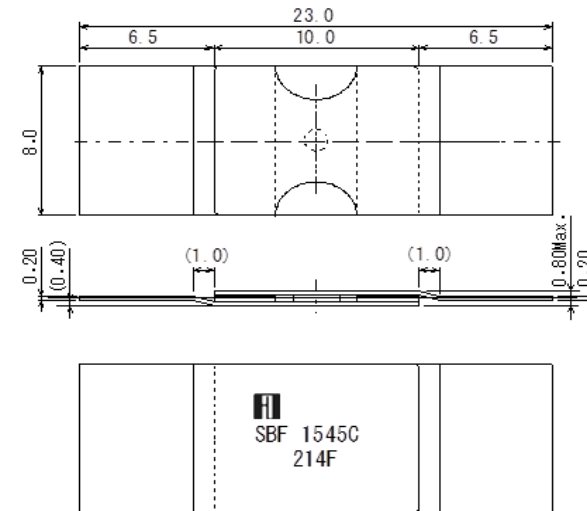
Type - M

Plastic mold package



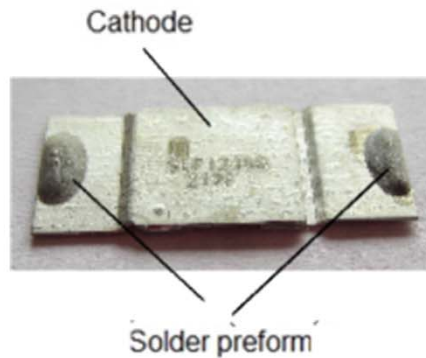
Type - F

Metal package

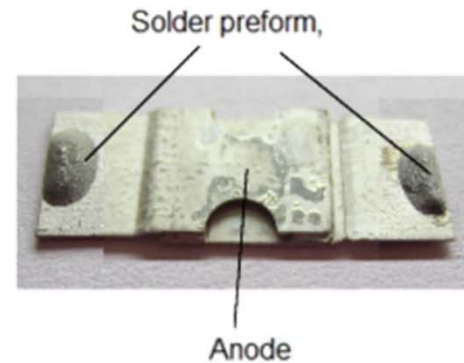


Note 3 Leads modification

U-type, Cathode facing up



D-type, Cathode facing down



Solar Module Components

Diode cross busbar assemblies

Table 1 Diode cross busbar assembly outline dimensions

Unit: in mm

Diode cross busbar assembly type	Diode type	Diode package						Cross busbar				
		W1	A	B	C	D	T	W2	t	L	Material	Surface
Single diode on cross busbar Type SD Fig.2	SBM	4.5	7.0	25	26	5.5	0.1	>3	>0.2	2 x Cell pitch + Cell space	C11000	Hot Tin Dip
	SBF	8.0	10.0	23	24	4.5	0.2					
Multiple diodes on cross busbar Type MD Fig.4	SBM	4.5	7.0	25	26	5.5	0.1					
	SBF	8.0	10.0	23	24	4.5	0.2					

Cell pitch: Cell side length + Cell space

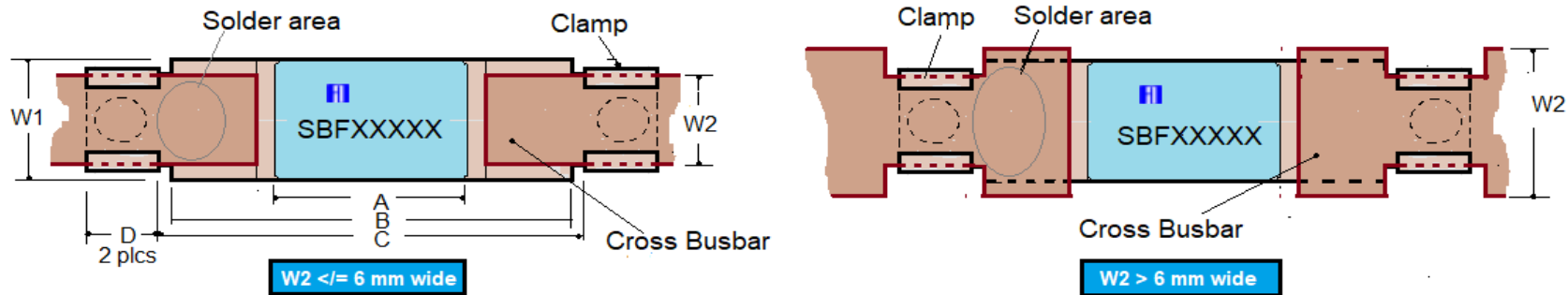


Fig. 1 Clamped cross busbar, top view

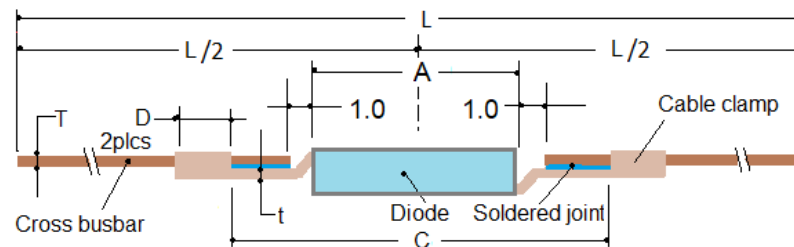


Fig. 2 Type SD, Single diode on cross busbars, side view



Solar Module Components

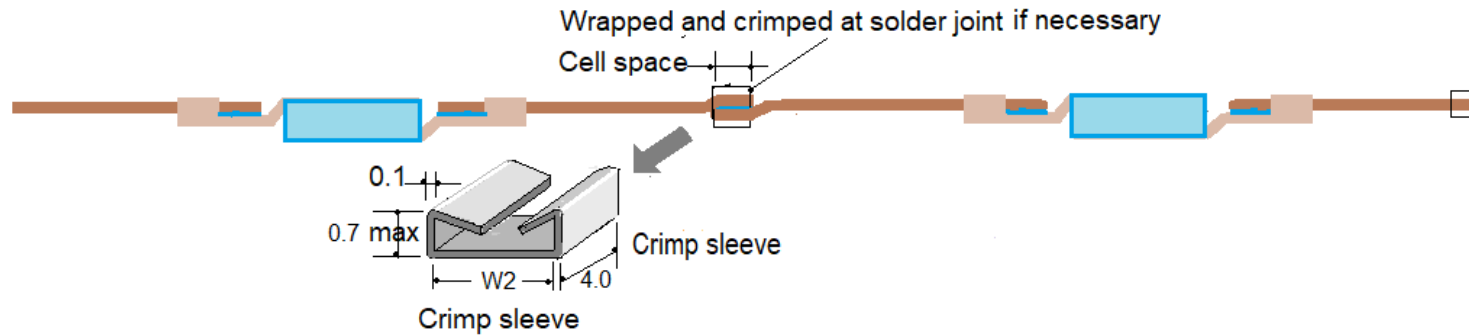


Fig. 3 Multiple single diode assemblies connected in series

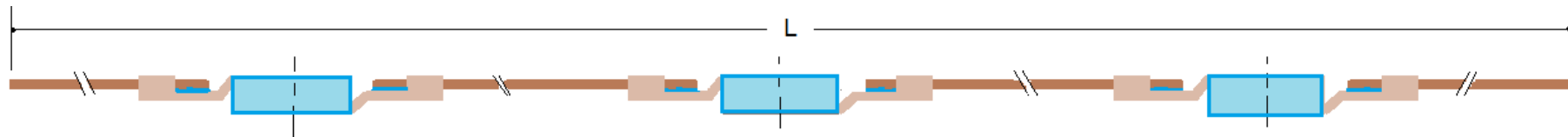


Fig. 4 Multiple diodes on cross busbars

Ordering information

SBXXXXXXN - SD 06 30 U
Diode P/N 1 2 3 4

- 1 - Type of diode sub-assembly, SD or MD
- 2 - Busbar width, in mm
- 3 - Busbar thickness, in x100 mm
- 4 - Cross busbar orientation
- U: Cathode facing up
- D: Cathode facing down