



TO-277 Plastic-Encapsulate Diode

SBDV1045TA SCHOTTKY BARRIER RECTIFIER

MAIN CHARACTERISTICS

I_O	10 A
V_{RRM}	45 V
T_j	150°C
$V_{F(typ)}$	0.33V (@$T_j=125^\circ\text{C}$)

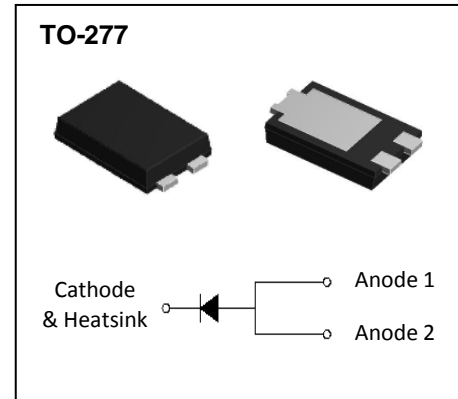
FEATURES

- Low Power Loss, High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop

MARKING



SBDV1045TA= Device code
XXXX = Code



MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak repetitive reverse voltage	45	V
V_{RWM}	Working peak reverse voltage		
V_R	DC blocking voltage		
$V_{R(RMS)}$	RMS reverse voltage	32	V
I_O	Average rectified output current	10	A
I_{FSM}	Non-Repetitive peak forward surge current (8.3ms half sine wave)	210	A
$R_{\theta JC}$	Thermal resistance from junction to case	1.7	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal resistance from junction to ambient	70	$^\circ\text{C/W}$
T_j	Junction temperature	150	$^\circ\text{C}$
T_{stg}	Storage temperature	-55~+150	$^\circ\text{C}$

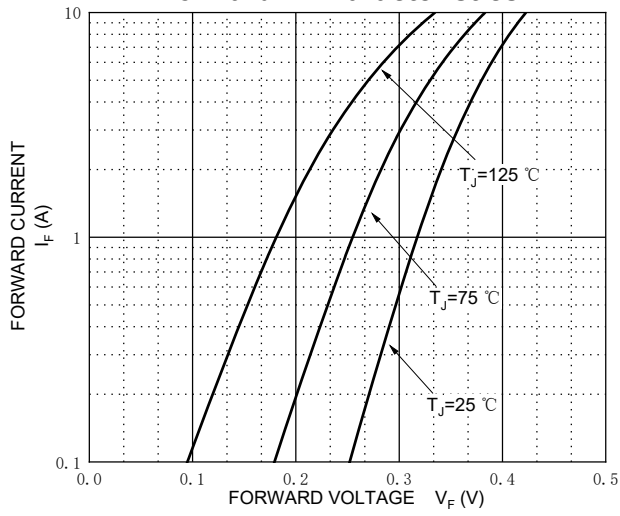
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=1\text{mA}$	45			V
Reverse current	I_R	$V_R=45\text{V}$	$T_j=25^\circ\text{C}$	34	100	μA
			$T_j=125^\circ\text{C}$	24.4		mA
Forward voltage	V_F	$I_F=10\text{A}$	$T_j=25^\circ\text{C}$	0.42	0.48	V
			$T_j=125^\circ\text{C}$	0.33		V

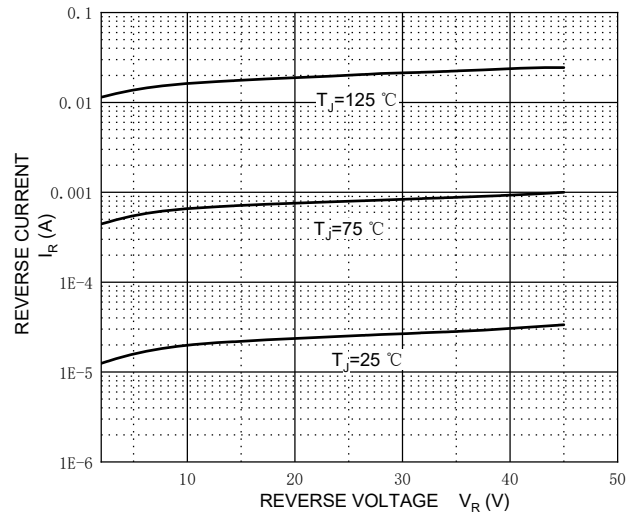
*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2.0\%$.

Typical Characteristics

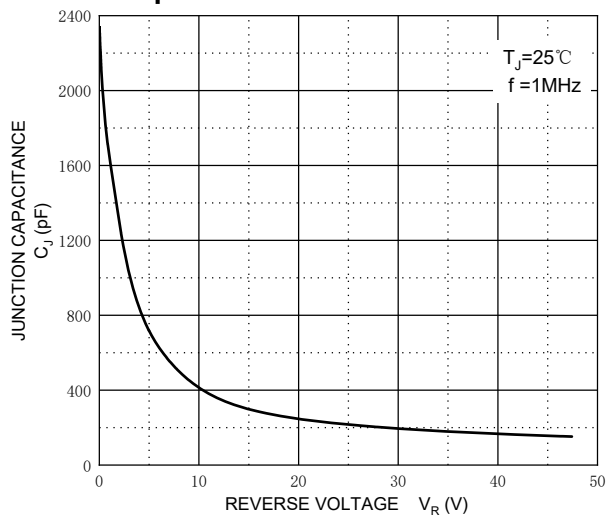
Forward Characteristics



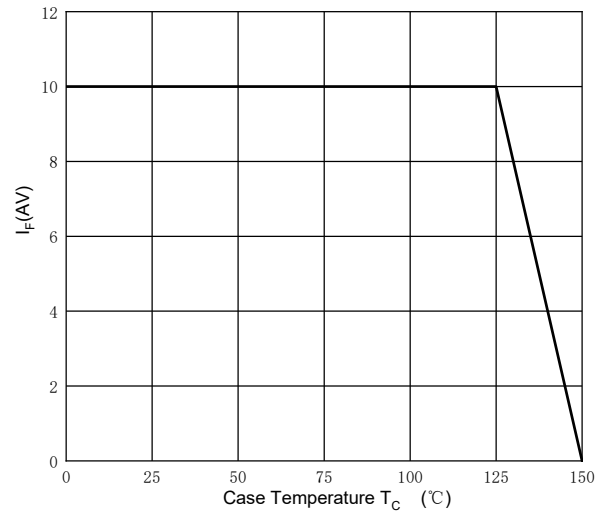
Reverse Characteristics



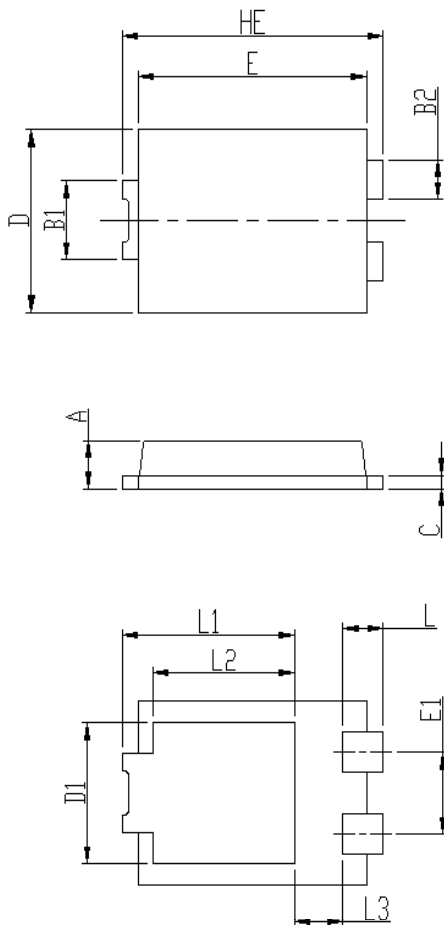
Capacitance Characteristics Per Diode



FORWARD CURRENT DERATING CURVE

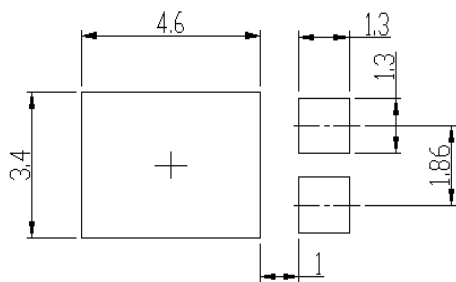


TO- 277 Package Outline Dimensions



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
HE	6.4	6.6	0.252	0.260
E	5.6	5.8	0.220	0.228
D	4.1	4.3	0.161	0.169
B1	1.7	1.9	0.067	0.075
B2	0.8	1	0.031	0.039
A	1.05	1.2	0.041	0.047
C	0.25	0.4	0.012	0.016
L	0.85	1.1	0.033	0.043
L1	4.2	4.4	0.165	0.173
L2	3.52 Typ.		0.139 Typ.	
L3	1.1	1.4	0.043	0.055
D1	3	3.3	0.118	0.130
E1	1.86 Typ.		0.073 Typ.	

TO- 277 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

TO-277 Tape and Reel

TO-277 Embossed Carrier Tape

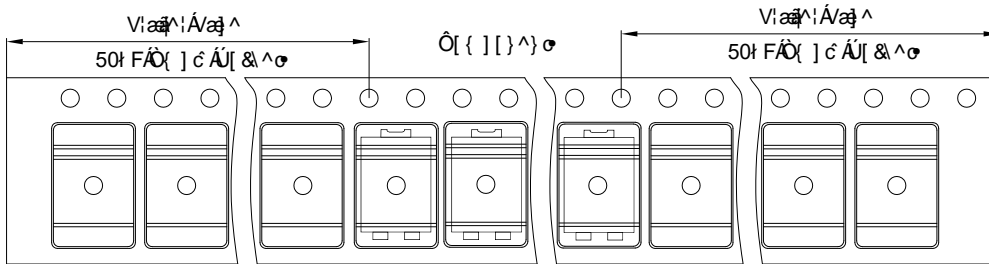


Packaging Description:

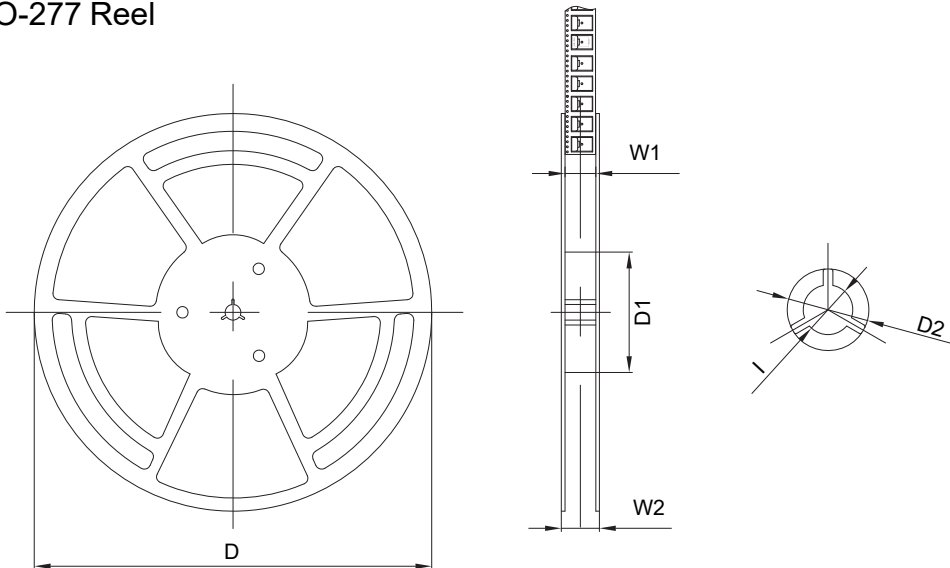
TO-277 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Hear Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 5000 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-277	4.50	6.80	1.35	Φ1.50	1.75	5.50	4.00	8.00	2.00	12.00

TO-277 Tape Leader and Trailer



TO-277 Reel



Dimensions are in millimeter						
Reel	D	D1	D2	W1	W2	l
13" Dia	330.00	100.00	Φ20.80	12.40	14.30	Φ13.00

Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
5000 pcs	13 inch	5000 pcs	338×338×40	80000 pcs	355×355×370