TO-277 Surface Mount Schottky Barrier Rectifier

Features

- High efficiency operation
- Metal silicon junction,majority carrier conduction
- Ultra low forward voltage drop,low power losses
- High forward surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Reverse Voltage
45 V
Forward Current
10 Ampere

Applications

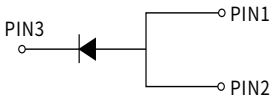
For use in low voltage,high frequency inverters,free wheeling,and polarity protection applications.

TO-277

Mechanical Data

- Case: TO-277
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SB1045L
Device marking code			SB1045L
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	45
Maximum RMS Voltage	V_{RMS}	V	32
Maximum DC blocking Voltage	V_{DC}	V	45
Maximum Average Forward Rectified Current @60Hz sinewave, Resistance load,TL (Fig.1)	$I_{F(AV)}$	A	10
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	A	150
Storage temperature	T_{stg}	°C	-55 ~ +150
Junction temperature	T_j	°C	-55 ~ +125
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	60
	$R_{\theta J-L}$	°C /W	16

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	SB1045L
Maximum instantaneous forward voltage	I_F=10A	V_F	V	0.53
Maximum DC reverse currentat rated DC blocking voltage	V_R=V_{DC}, T_A=25°C	I_{R1}	mA	0.15
	V_R=V_{DC}, T_A=100°C	I_{R2}		50
Typical junction capacitance	4.0V DC,1MHz	C_J	pF	570

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

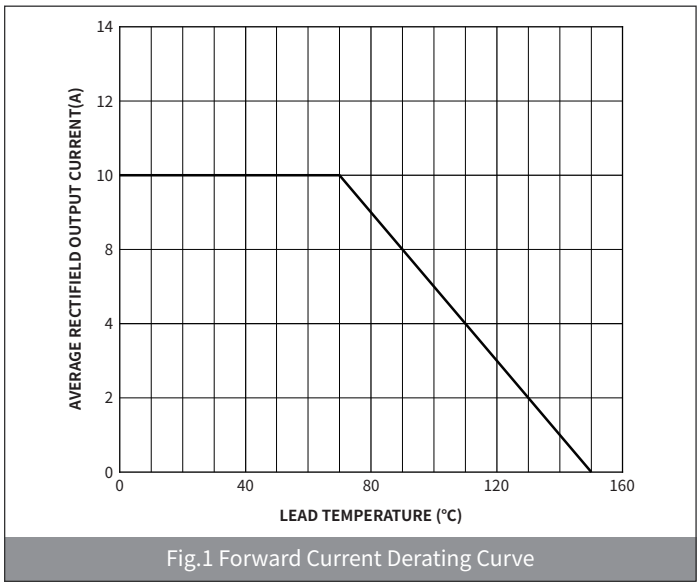


Fig.1 Forward Current Derating Curve

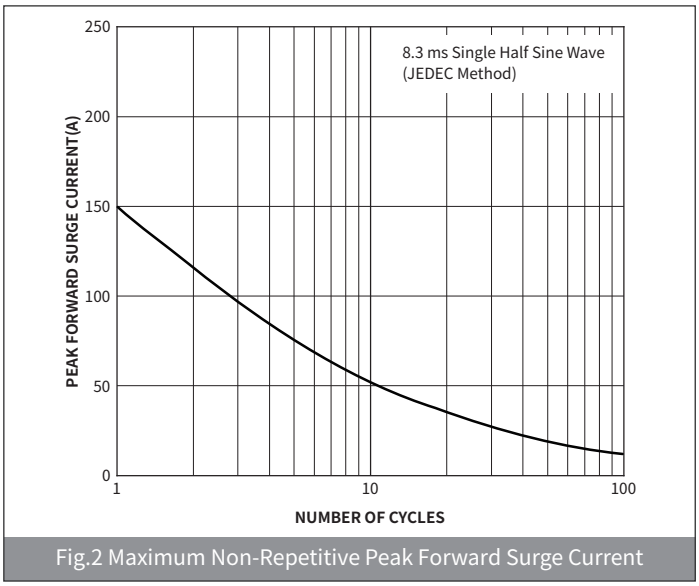


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

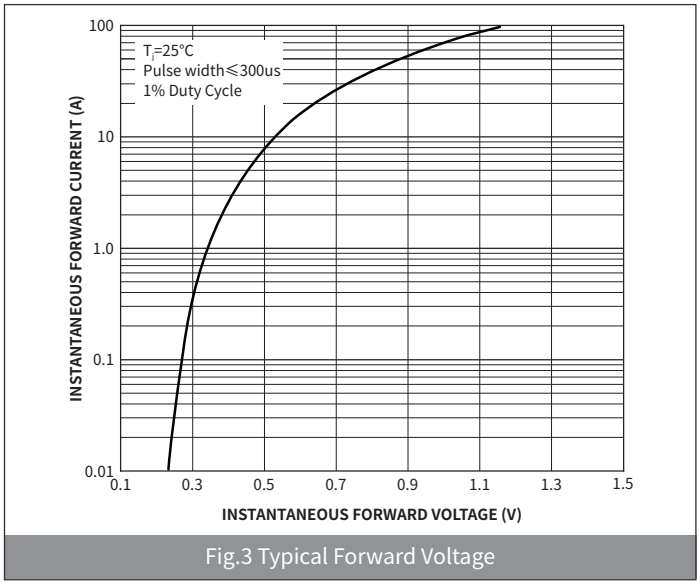


Fig.3 Typical Forward Voltage

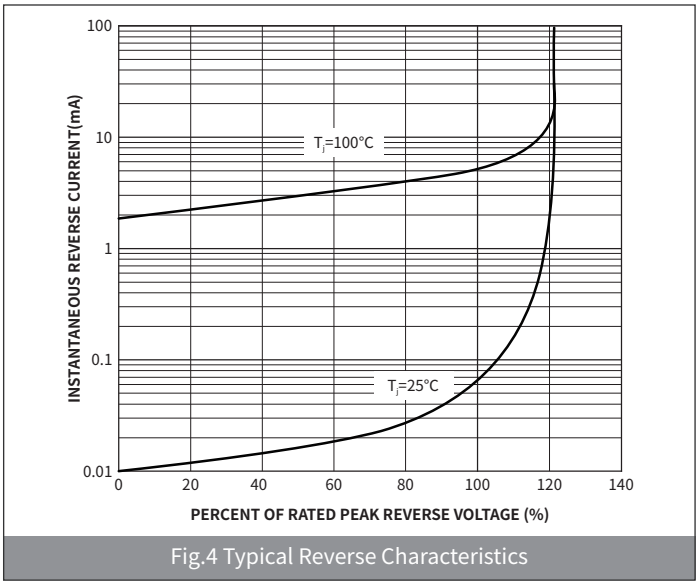
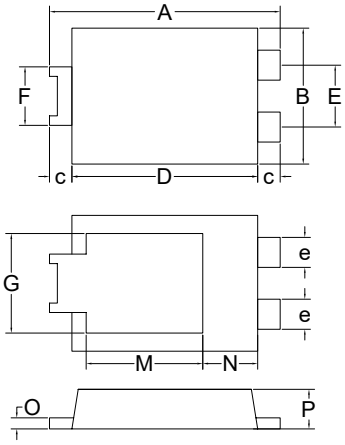


Fig.4 Typical Reverse Characteristics

Ordering Information

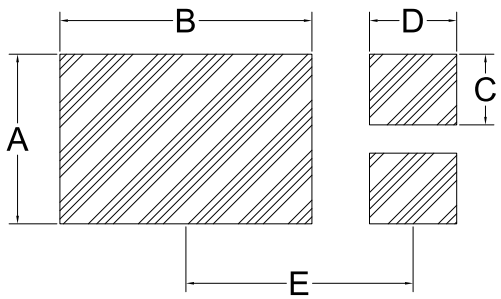
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
TO-277	R3	0.090	5000	10000	100000	13''

Package Outline Dimensions (TO-277)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	6.300	6.700	0.248	0.264
B	3.950	4.300	0.156	0.169
c	0.410	0.710	0.016	0.028
D	5.280	5.880	0.208	0.231
E	1.760	1.960	0.069	0.077
e	0.850	0.960	0.033	0.038
F	1.750	1.850	0.069	0.073
G	2.850	3.150	0.112	0.124
M	3.390	3.690	0.133	0.145
N	1.440	1.740	0.057	0.069
O	0.250	0.350	0.010	0.014
P	0.950	1.250	0.037	0.049

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.4	3.8	0.134	0.150
B	4.5	4.9	0.177	0.193
C	1.2	1.6	0.047	0.063
D	0.6	1	0.024	0.039
E	3.67	4.07	0.144	0.160