

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Built-in strain relief, ideal for automated placement
- Low forward voltage drop
- High forward surge current capability
- High temperature soldering guaranteed
260°C/10 seconds at terminals

Mechanical Data

Case : Molded plastic body

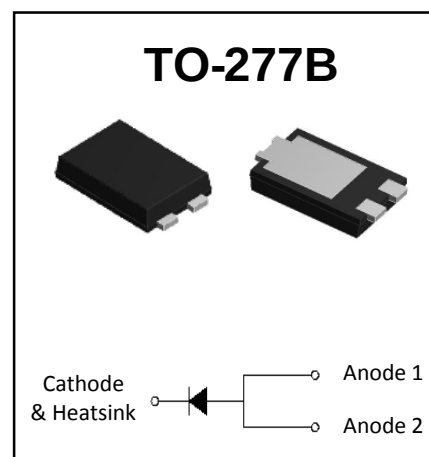
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.003 ounce, 0.092 grams

Marking: SB20120L



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

PARAMETER	SYMBOLS	AS20J120T	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	120	V
Maximum RMS voltage	V_{RMS}	84	V
Maximum DC blocking voltage	V_{DC}	120	V
Maximum average forward rectified current at $T_L=100^\circ\text{C}$	$I_{(AV)}$	20.0	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	300.0	A
Typical thermal resistance	R_{qjc}	8	$^\circ\text{C/W}$
Operating junction temperature range	T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

Note: Thermal resistance from junction to case lead mounted on P.C.B. with 10.0 mm x 10.0 mm) copper pad areas

Electrical Characteristics (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOLS	TYPE	MAX	UNITS
Maximum instantaneous forward voltage at 20.0A	V_F	0.77	0.79	V
Maximum DC reverse current at rated DC blocking voltage	I_R	10 5	200 20	μA mA

Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

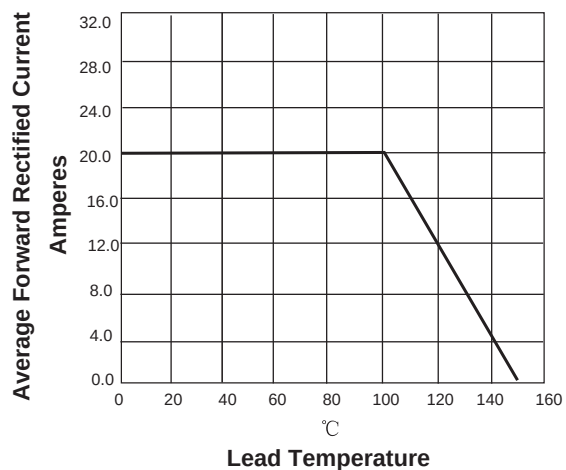


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

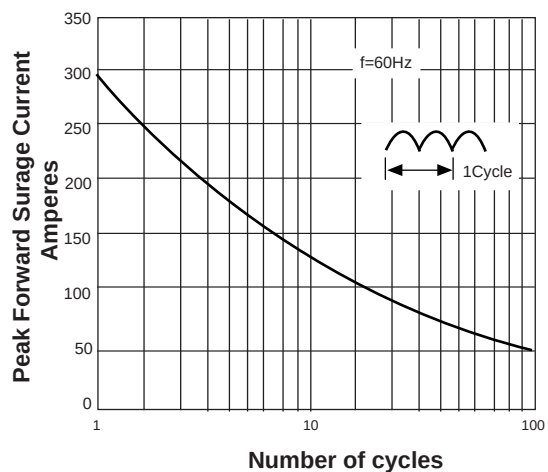


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

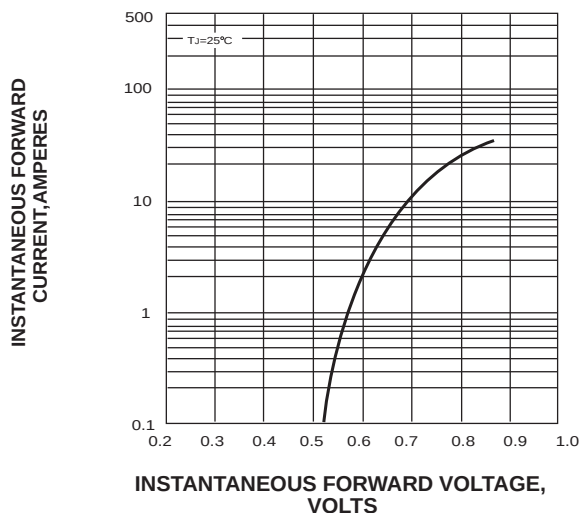
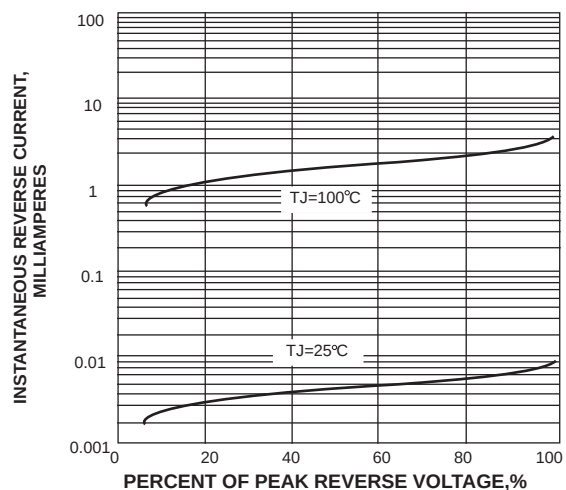
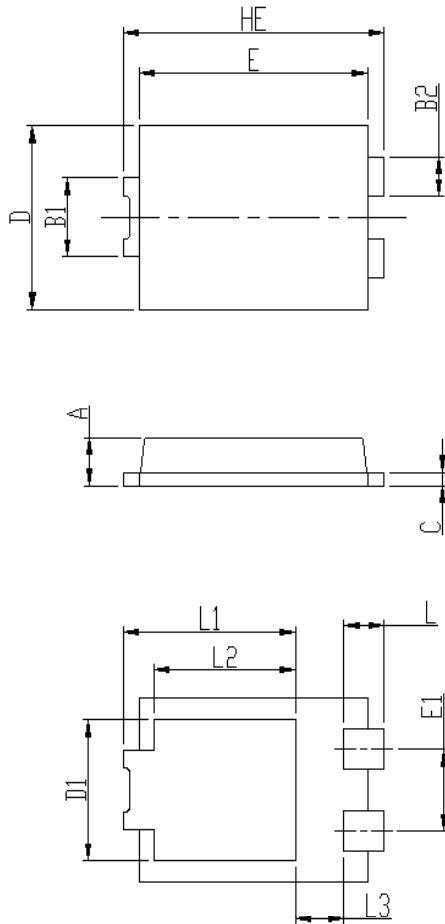


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

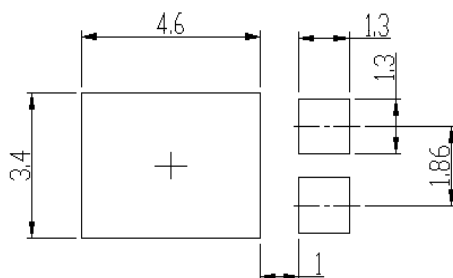


TO- 277 Package Outline Dimensions



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	0.3	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.	

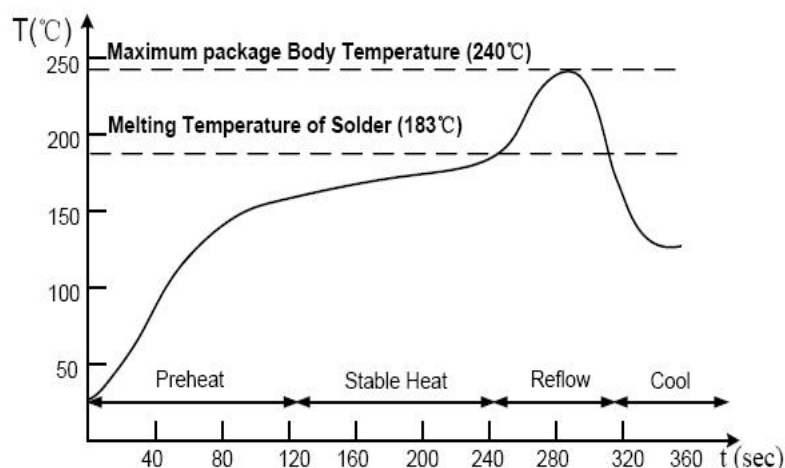
TO- 277 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Suggested Soldering Temperature Profile

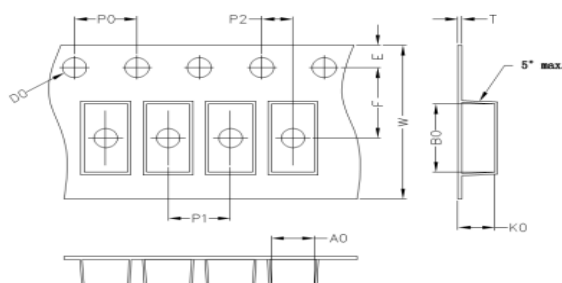


Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 260°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Carrier Dimension(mm)



A0	B0	K0	D0	E	F
4.40	6.90	1.30	1.55	1.75	7.50
P0	P1	P2	T	W	Tolerance
4.0	8.0	2.0	0.25	12	0.1

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
TO-277B	13'	330	5.0	340	10.0	360*360*360	80