

Features

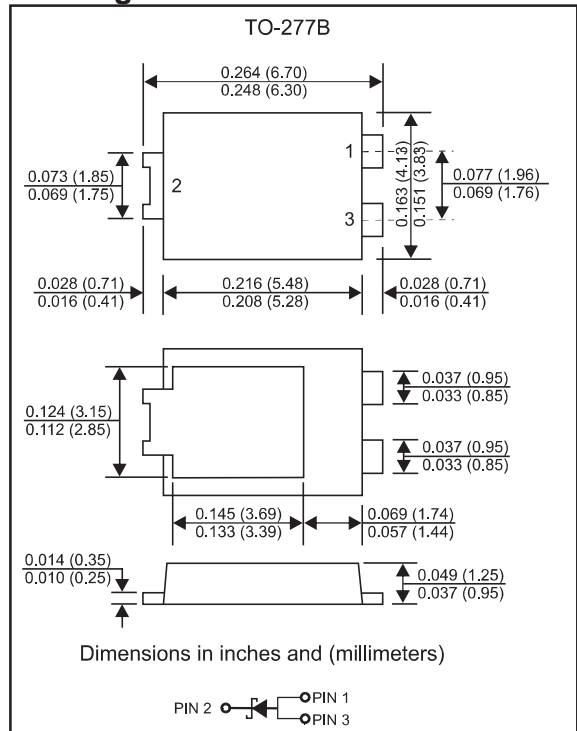
- Ultra Low Forward Voltage Drop .
- Very low profile-typical height of 1.10mm
- Low Power Losses,High Efficiency Operation
- Low Thermal Resistance Package.
- High Operating Junction Temperature.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Terminals:Solderable per MIL-STD-750,Method 2026



Package outline



Maximum Ratings And Electrical Characteristics

Parameter	SYMBOLS	SB1040L	SB1045L	SB1050L	SB1060L	SB1080L	SB10100L	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	40	45	50	60	80	100	V
Maximum RMS voltage	V_{RMS}	28	31.5	35	42	56	70	V
Maximum DC blocking voltage	V_{DC}	40	45	50	60	80	100	V
Maximum average forward rectified current at $T_L=100^\circ\text{C}$	$I_{(AV)}$	10.0						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	175.0						A
Maximum instantaneous forward voltage at 2.0A at 10.0A	V_F	0.35 0.48		0.40 0.55		0.45 0.70		V
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	I_R	0.5 50				0.2 20		mA
Typical thermal resistance	R_{qJA}	60.0						$^\circ\text{C}/\text{W}$
Operating junction temperature range	T_J	-55 to +150						$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150						$^\circ\text{C}$

Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Rating and characteristic curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

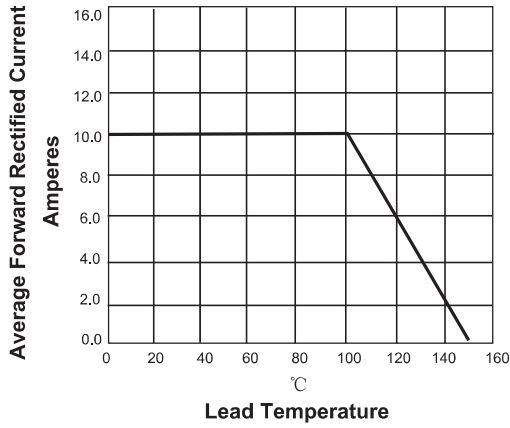


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

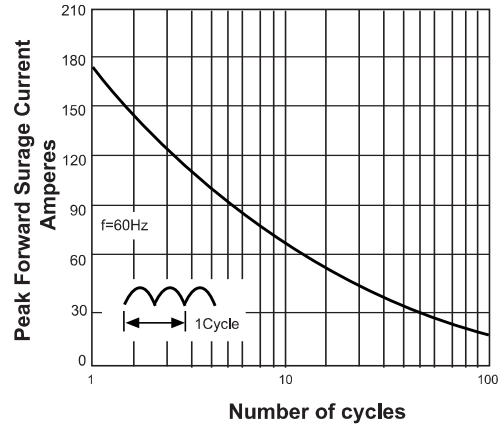


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

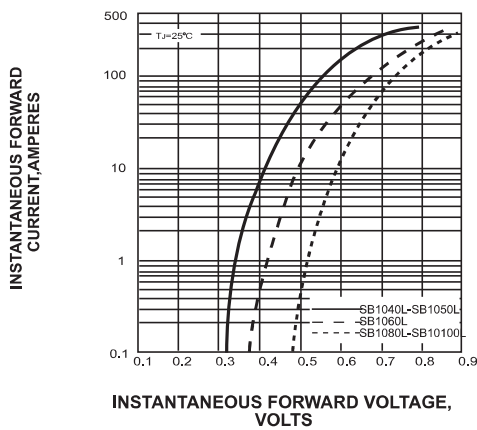
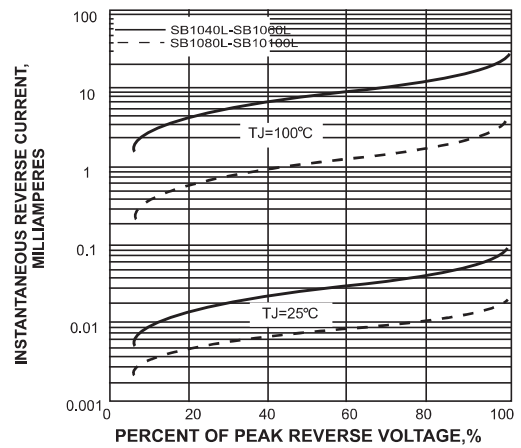
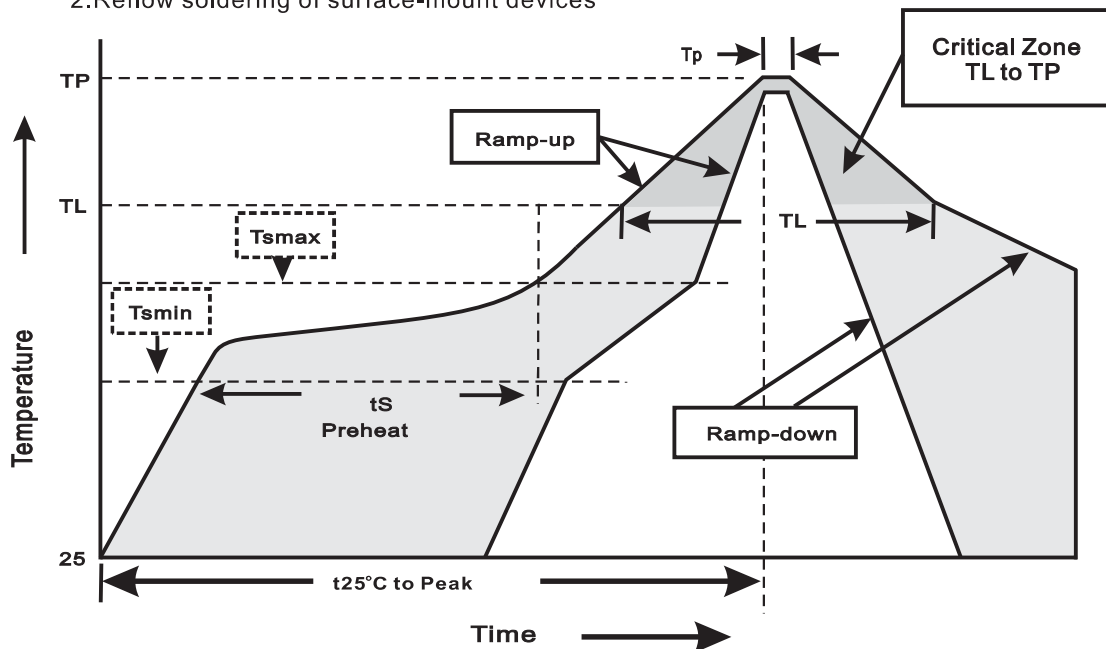


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T _L to T _P)	<3°C/sec
Preheat -Temperature Min(T _{smIn}) -Temperature Max(T _{smAx}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smAx} to T _L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T _L) -Time(t _L)	217°C 60~260sec
Peak Temperature(T _P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t _P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes