

Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

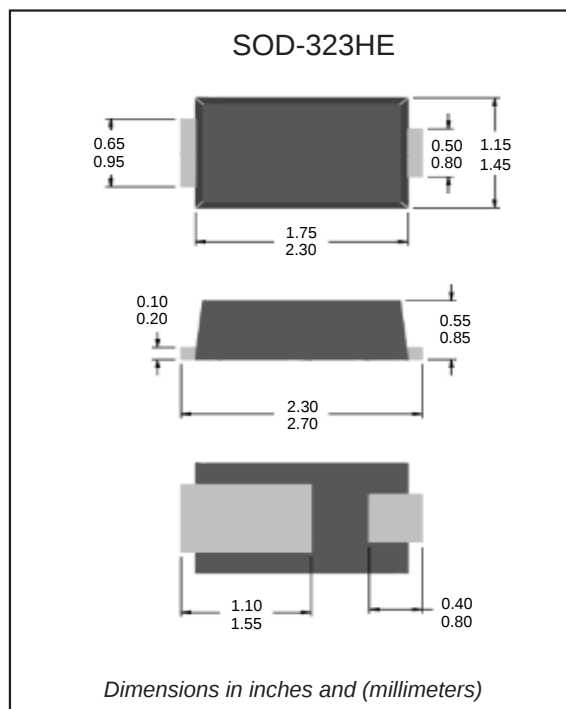
Typical Applications

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

Mechanical Date

- **Package:** SOD-323HE
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

Package outline



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

PARAMETER	SYMBOL	UNIT	RB160VAM-40TR
Repetitive peak reverse voltage	VRRM	V	40
Average rectified output current @60Hz sine wave, Resistance load, T _a (FIG.1)	I _O	A	1.0
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T _j =25°C	I _{FSM}	A	25
Storage temperature	T _{stg}	°C	-55 ~+150
Junction temperature	T _j	°C	-55 ~+150

Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	RB160VAM-40TR
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	0.55
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	I _{RRM}	mA	T _a =25°C	0.50
			T _a =100°C	10

Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	RB160VAM-40TR
Thermal Resistance	R θ J-A	$^\circ\text{C/W}$	199 ¹⁾
	R θ J-L		21 ¹⁾

Note: 1. Per JESD51-3 Recommended Thermal Test Board. Device mounted on FR-4 PCB, board size = 76.2 mm x 114.3 mm

Characteristics (Typical)

FIG1: I_o -TL Curve

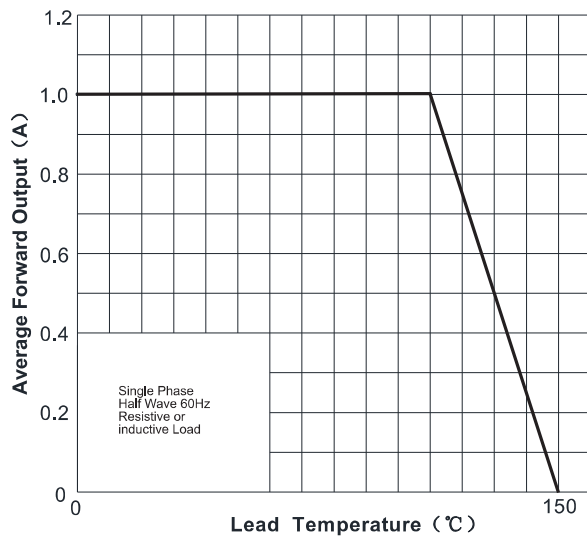


FIG2: Surge Forward Current Capability

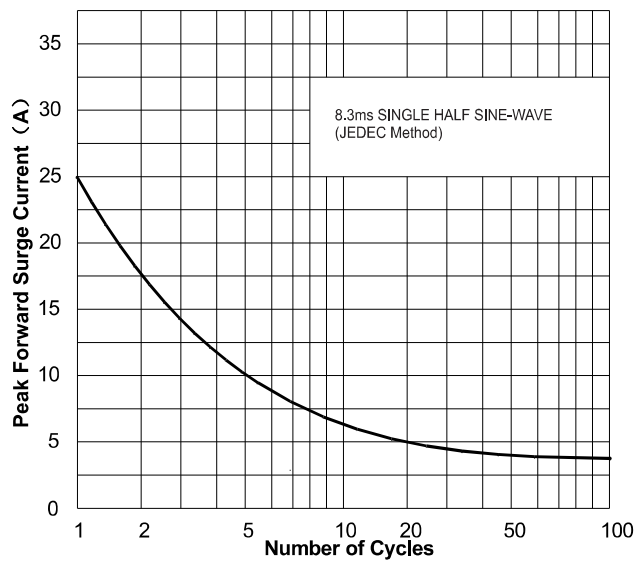


FIG3: Forward Voltage

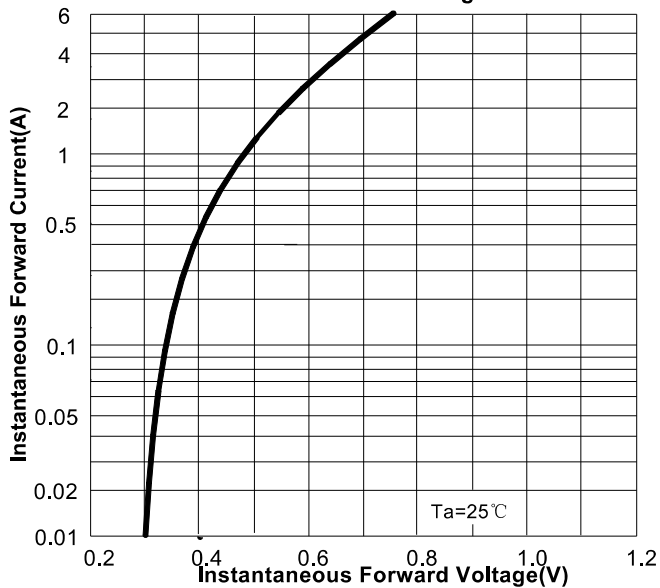
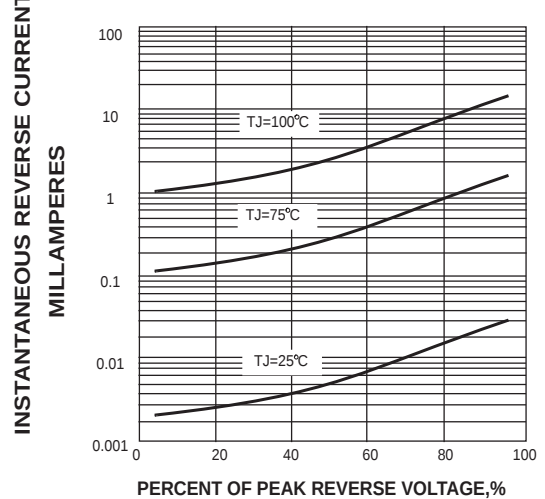


FIG. 4-TYPICAL REVERSE CHARACTERISTICS



Pinning information

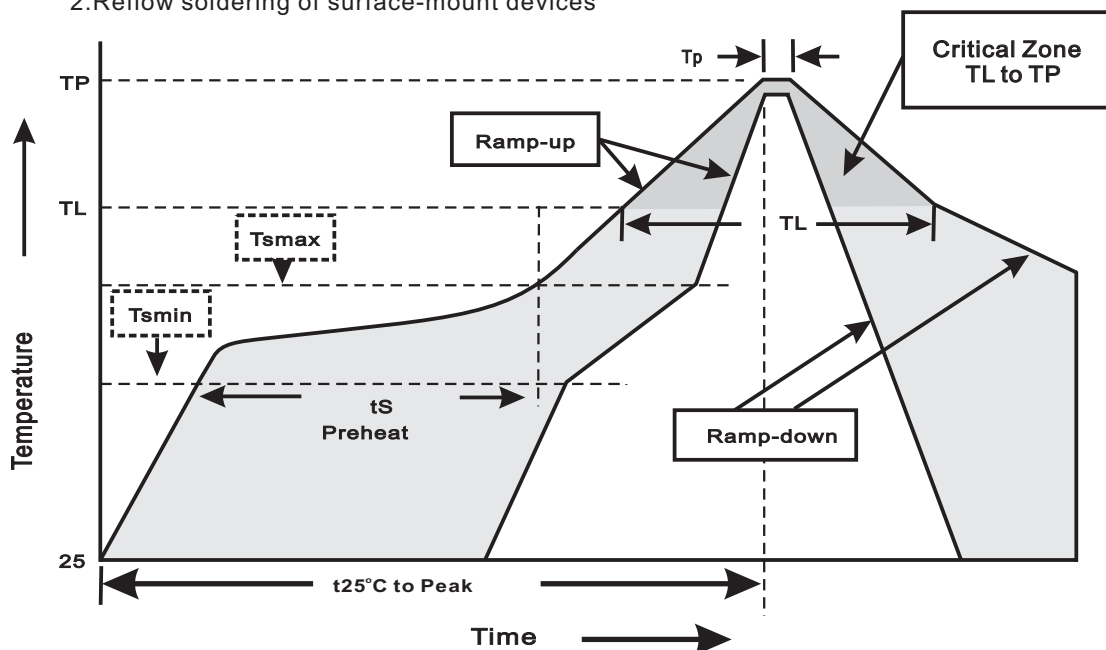
Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
RB160VAM-40TR	1B

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