

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

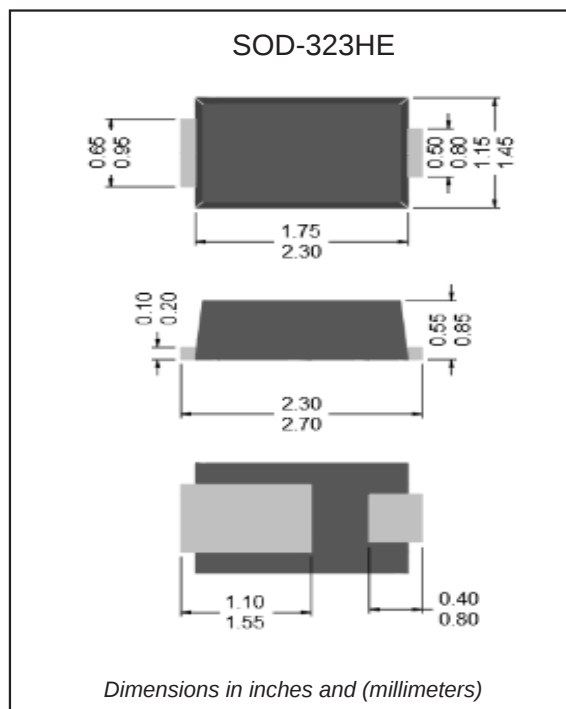
Typical Applications

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

Mechanical Data

- **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	SS12HE	SS13HE	SS14HE	SS15HE	SS16HE	SS18HE	SS110HE	SS115HE	SS120HE
Repetitive peak reverse voltage	VRRM	V	20	30	40	50	60	80	100	150	200
Average rectified output current @60Hz sine wave, Resistance load, Ta (FIG.1)	IO	A	1.0								
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, Tj=25°C	IFSM	A	25								
Storage temperature	Tstg	°C	-55 ~+150								
Junction temperature	Tj	°C	-55 ~+150								

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	SS12HE	SS13HE	SS14HE	SS15HE	SS16HE	SS18HE	SS110HE	SS115HE	SS120HE
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	0.55			0.70		0.85		0.95	
Maximum DC reverse current at rated DC blocking voltage per diode @ V _{RM} =V _{RRM}	I _{RRM}	mA	T _a =25°C	0.50					0.10			
			T _a =100°C	10					5			

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

PARAMETER	SYMBOL	UNIT	SS12HE	SS13HE	SS14HE	SS15HE	SS16HE	SS18HE	SS110HE	SS115HE	SS120HE
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:Io-TLCurve

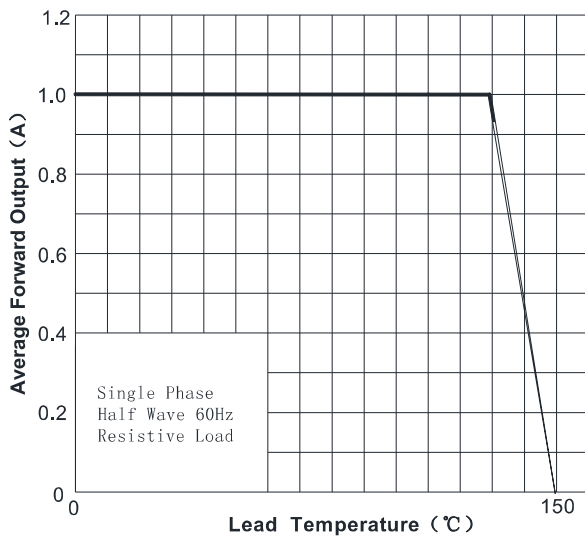


FIG2: Surge Forward Current Capability

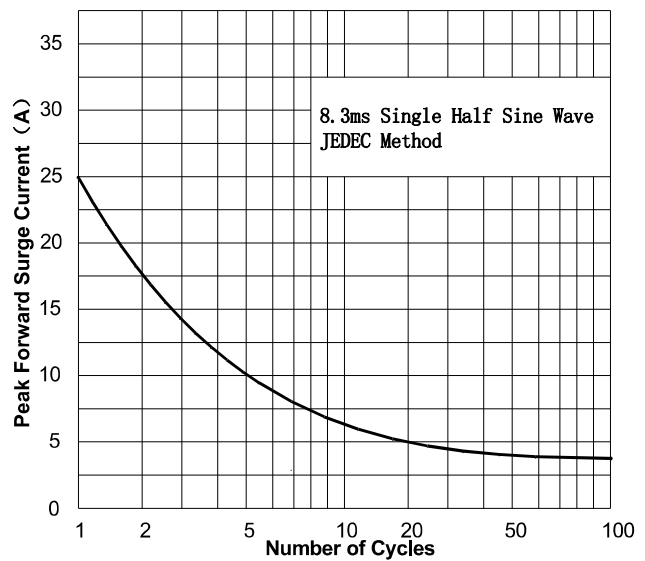


FIG3: Forward Voltage

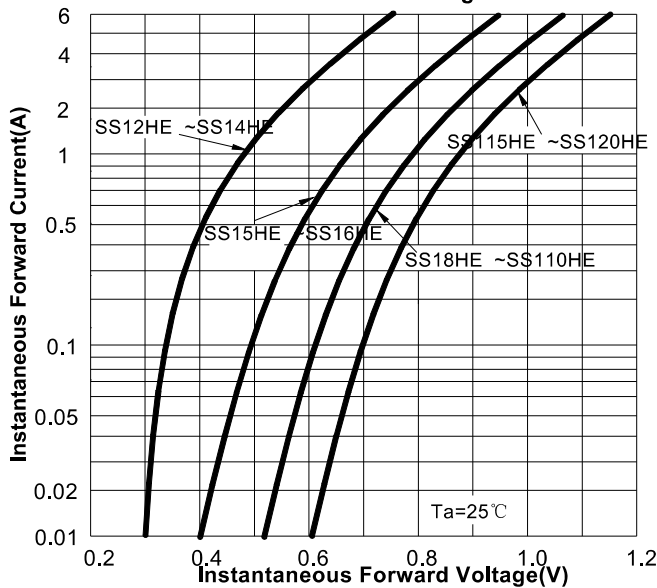
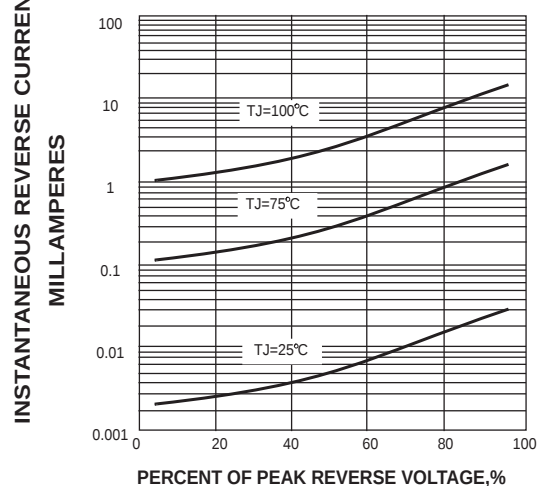


FIG. 4-TYPICAL REVERSE CHARACTERISTICS



Pinning information

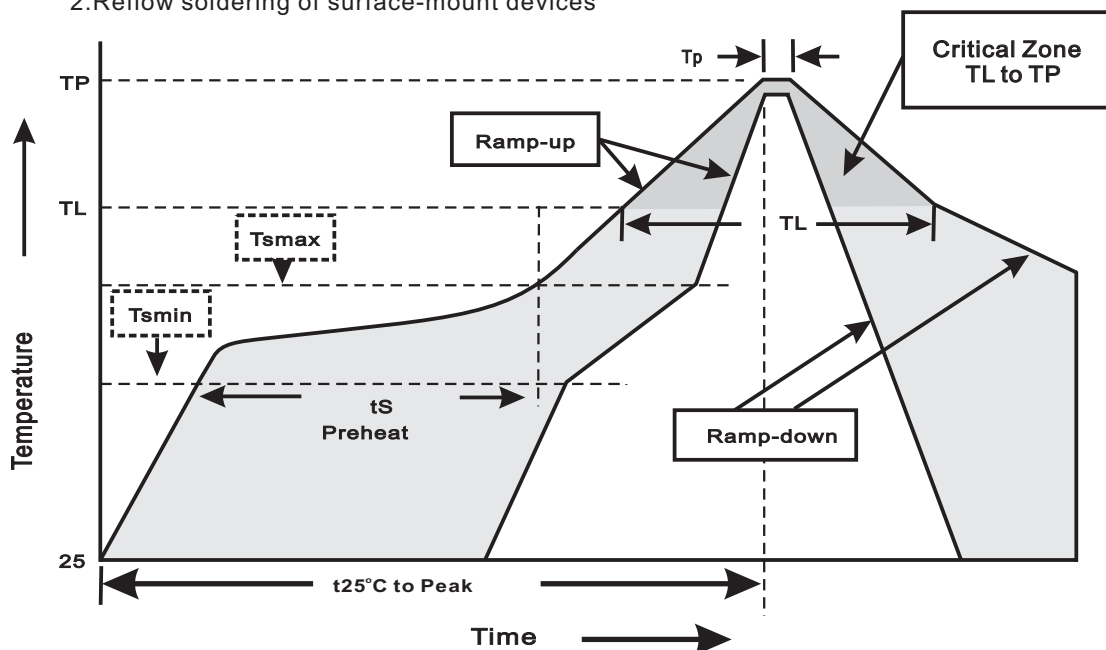
Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
SS12HE	12
SS13HE	1A
SS14HE	1B
SS15HE	15
SS16HE	1C
SS18HE	18
SS110HE	110
SS115HE	115
SS120HE	120

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