

Schottky Barrier Rectifiers

Reverse Voltage 20 to 200V Forward Current 1.0A

FEATURES

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * Low power loss,high efficiency
- * For use in low voltage high frequency inverters, free wheeling,and polarity protection applications
- * Guardring for over voltage protection
- * High temperature soldering guaranteed: 260°C/10 seconds at terminals

Mechanical Data

Case: SOD-323HE

molded plastic over sky die

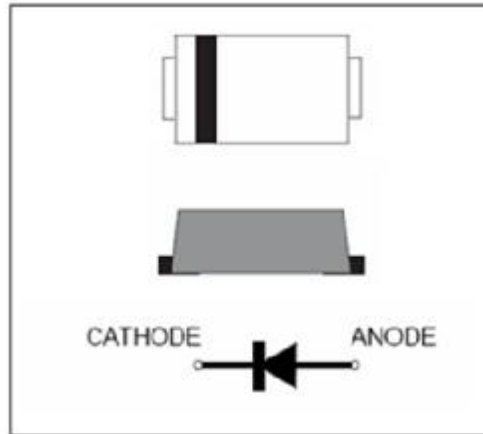
Terminals: Tin Plated, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.011 g

Handling precautin:None



We declare that the material of product is Haloggen free (green epoxy compound)

1.Electrical Characteristic

Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	RSB12TG	RSB13TG	RSB14TG	RSB15TG	RSB16TG	RSB18TG	RSB110TG	RSB115TG	RSB120TG	Unit
device marking code		12	13	14	15	16	18	110	115	120	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	150	200	V
Maximum average forward rectified current at TC = 75°C	$I_{F(AV)}$	1.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	22									A
Typical thermal resistance (Note 1)	$R\theta_{JA}$ $R\theta_{JL}$	220 50									°C/W
Operating junction temperature range	T_J	-55 to +150									°C
storage temperature range	T_{STG}	-65 to +150									°C

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	RSB12TG	RSB13TG	RSB14TG	RSB15TG	RSB16TG	RSB18TG	RSB110TG	RSB115TG	RSB120TG	Unit
Maximum instantaneous forward voltage at($I_F = 0.7 A, T_J = 25^\circ C$) ($I_F = 1.0 A, T_J = 25^\circ C$)	V_F	0.48 0.55			0.7		0.85		0.9	0.92	V
Maximum DC reverse current at rated DC blocking voltage $T_A = 25^\circ C$ $T_J = 125^\circ C$	I_R	0.02 10									mA
Typical junction capacitance at 4.0V, 1MHz	C_J	160									PF

NOTES:

1. 8.0mm² (.013mm thick) land areas

2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

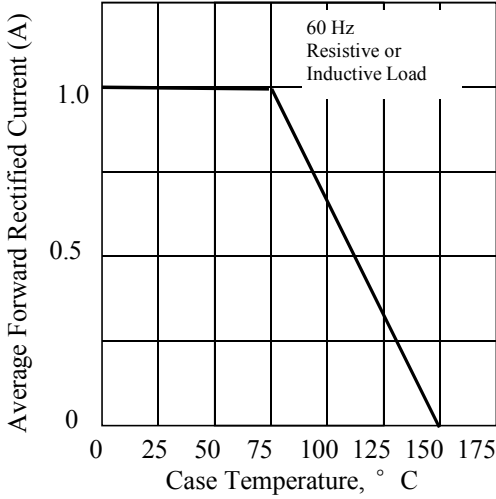


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

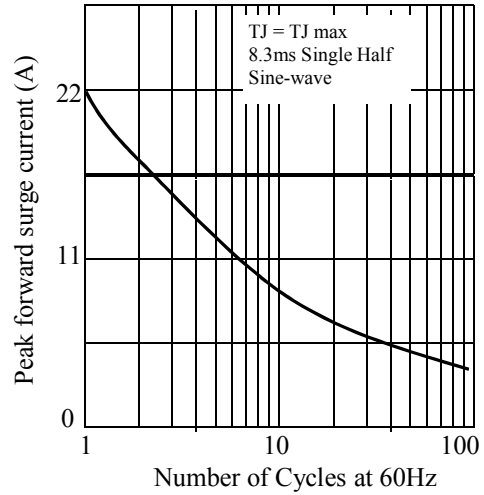


Fig 3. - Typical Instantaneous Forward Characteristics

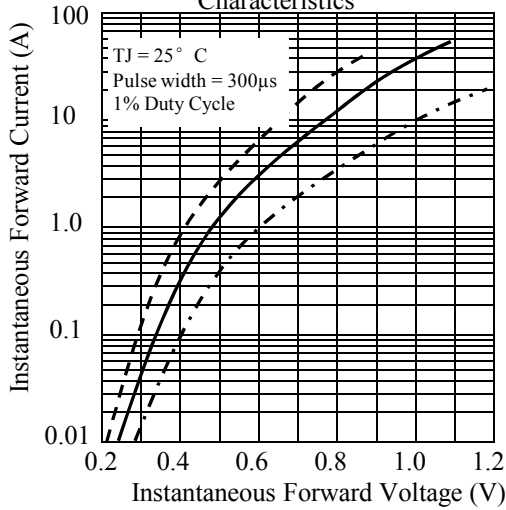


Fig 4. - Typical Reverse Characteristics

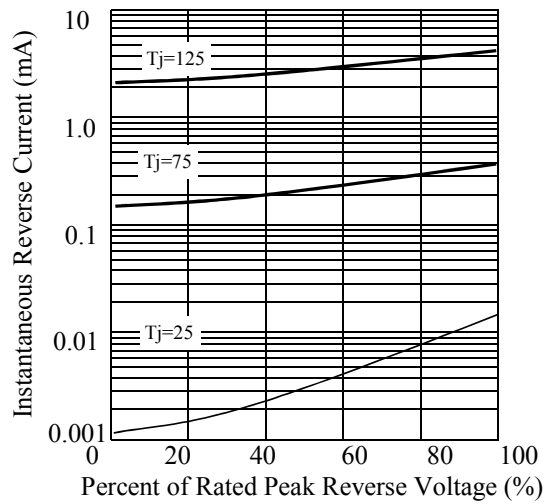


Fig 5. - typical transient thermal impedance

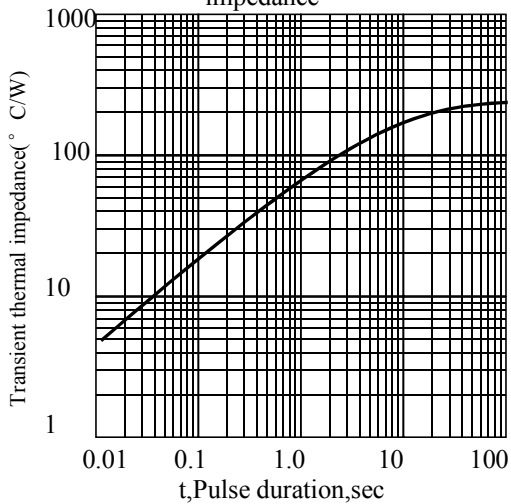
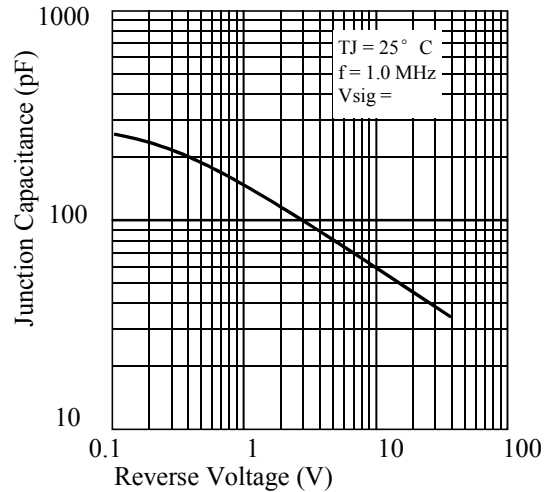
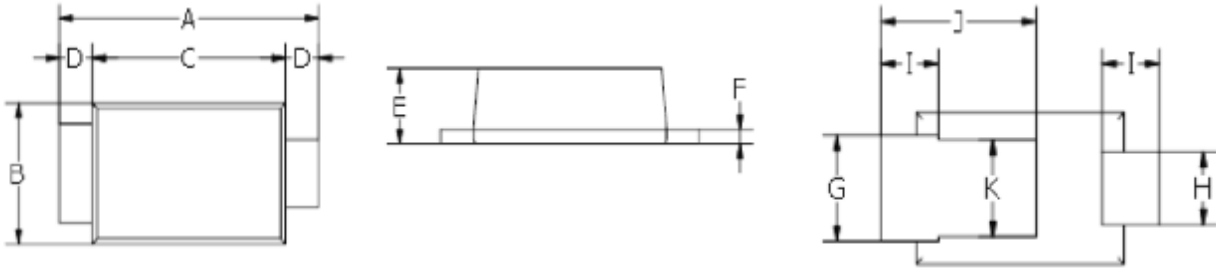


Fig 6. - Typical Junction Capacitance



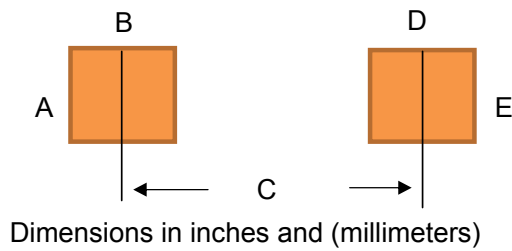
3. dimension:

SOD-323HE



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.30	2.70	0.091	0.106
B	1.20	1.40	0.047	0.055
C	1.75	1.95	0.069	0.077
D	0.30Typ		0.012Typ	
E	0.55	0.75	0.030	0.022
F	0.10	0.20	0.004	0.008
G	0.65	0.95	0.026	0.037
H	0.50	0.70	0.020	0.028
I	0.40	0.80	0.016	0.031
J	1.15	1.55	0.045	0.061
K	0.8Typ		0.032Typ	

Suggested solder pad layout

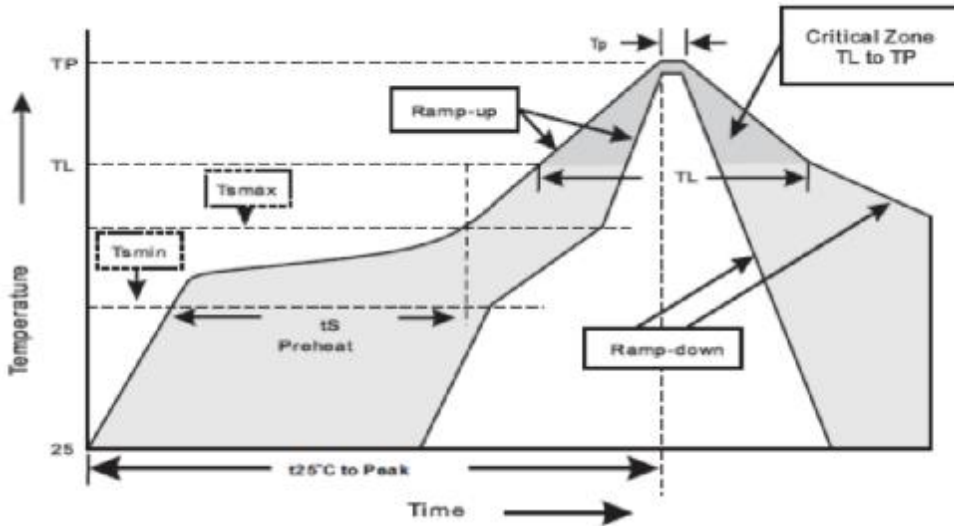


Dimensions in inches and (millimeters)

PACKAGE	A	B	C	D	E
SOD323-HE	0.032(0.8)	0.032(0.8)	0.085(2.15)	0.032(0.8)	0.032(0.8)

5.Suggested thermal profile for soldering process

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



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-up Rate	<3sec
Time maintained above: - Temperature (T _L) - Time(t _L)	217°C 60-260sec
Peak Temperature(T _P)	255 -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