

Features

- Multilayer Metal -Silicon Potential Structure
- High Current Capability, High Efficiency
- High Junction Temperature Capability
- Low Leakage Current
- RoHs Product

Applications

- Surface mount schottky barrier rectifier
- Buck and Boost dc-dc Converters
- Low Voltage High Frequency Switching Power Supply
- Low Voltage High Frequency Invers Circuit
- Low Voltage Continued Circuit and Protection Circuit



SOD-323



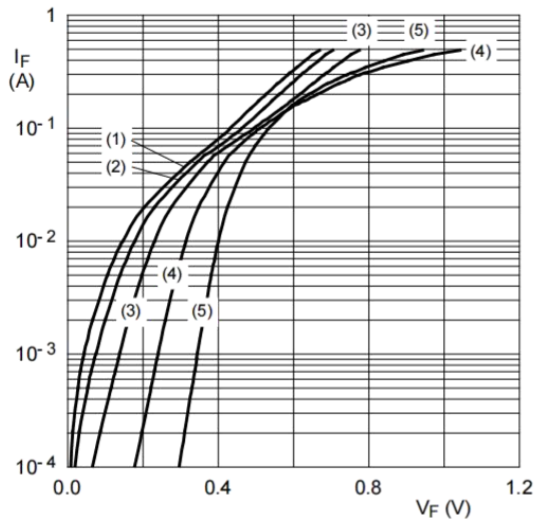
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Reverse Voltage	V_{RRM}	100	V
Forward Continuous Current	I_F	150	mA
Repetitive Peak Forward Current	I_{FMR}	350	mA
Forward Surge Current@t=8.3ms	I_{FSM}	750	mA
Power Dissipation	PD	200	mW
Typical Thermal Resistance per leg @TA = 25°C	$R_{\theta JA}$	500	°C/W
Operating Junction Temperature Range	TJ	125	°C
Storage Temperature Range	TSTG	-55 to +125	°C

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

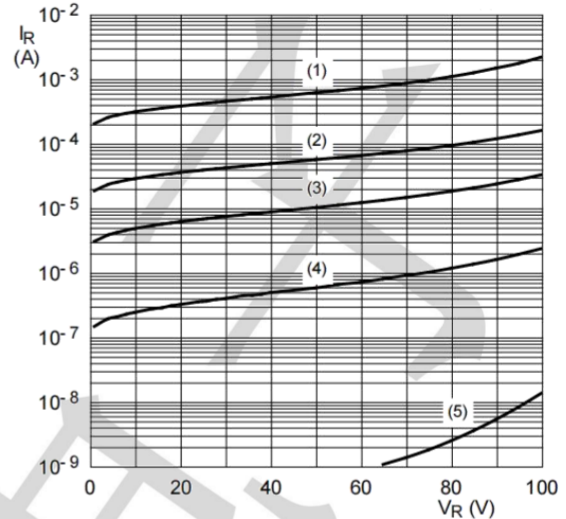
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)R}$	$I_R=100\mu A$	100	--	--	V
Reverse current	I_R	$V_R=1.5V$	--	--	0.5	uA
		$V_R=10V$	--	--	0.8	uA
		$V_R=50V$	--	--	2.0	uA
		$V_R=75V$	--	--	5.0	uA
		$V_R=75V, T_J=60^\circ C$	--	--	20	uA
Forward voltage	V_F	$I_F=0.1mA$	--	--	0.25	V
		$I_F=10mA$	--	--	0.45	V
		$I_F=250mA$	--	--	1.00	V
Total Capacitance	C_{tot}	$V_R = 0V, f = 1MHz$	--	--	10	pF
		$V_R = 1V, f = 1MHz$	--	--	6.0	pF

Typical Electrical Characteristic Curves



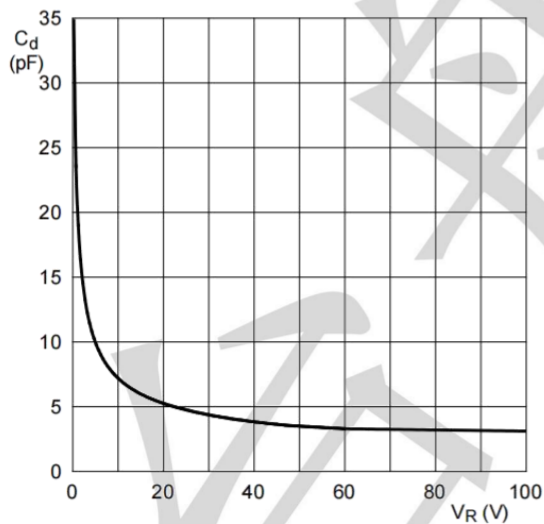
- (1) $T_{amb} = 150\text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 125\text{ }^{\circ}\text{C}$
- (3) $T_{amb} = 85\text{ }^{\circ}\text{C}$
- (4) $T_{amb} = 25\text{ }^{\circ}\text{C}$
- (5) $T_{amb} = -40\text{ }^{\circ}\text{C}$

Forward current as a function of forward voltage; typical values



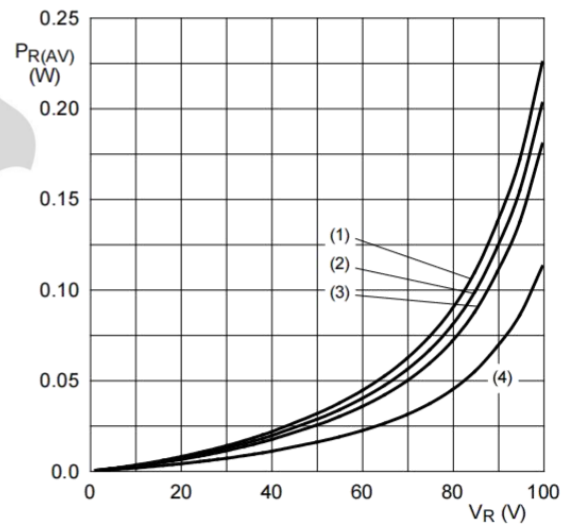
- (1) $T_{amb} = 125\text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 85\text{ }^{\circ}\text{C}$
- (3) $T_{amb} = 60\text{ }^{\circ}\text{C}$
- (4) $T_{amb} = 25\text{ }^{\circ}\text{C}$
- (5) $T_{amb} = -40\text{ }^{\circ}\text{C}$

Reverse current as a function of reverse voltage; typical values



$f = 1\text{ MHz}; T_{amb} = 25\text{ }^{\circ}\text{C}$

Diode capacitance as a function of reverse voltage; typical values



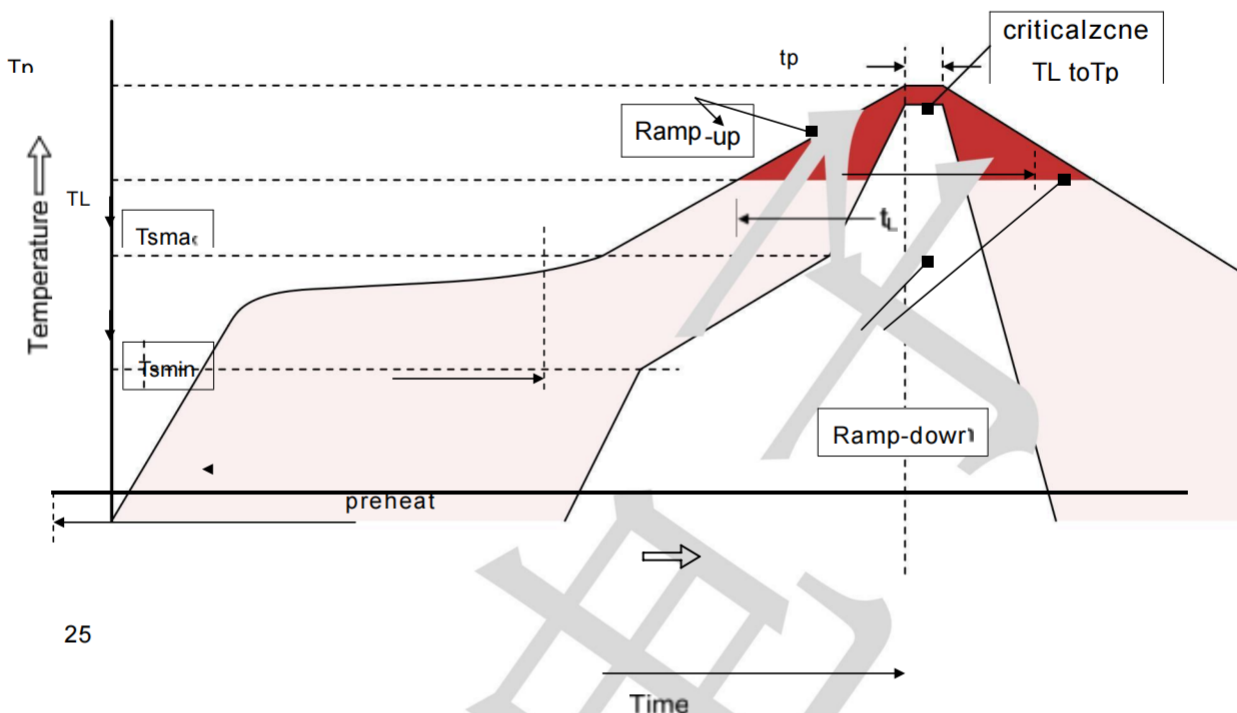
$T_j = 125\text{ }^{\circ}\text{C}$

- (1) $\delta = 1$
- (2) $\delta = 0.9$
- (3) $\delta = 0.8$
- (4) $\delta = 0.5$

Average reverse power dissipation as a function of reverse voltage; typical values

Recommended Soldering Conditions

Reflow Soldering

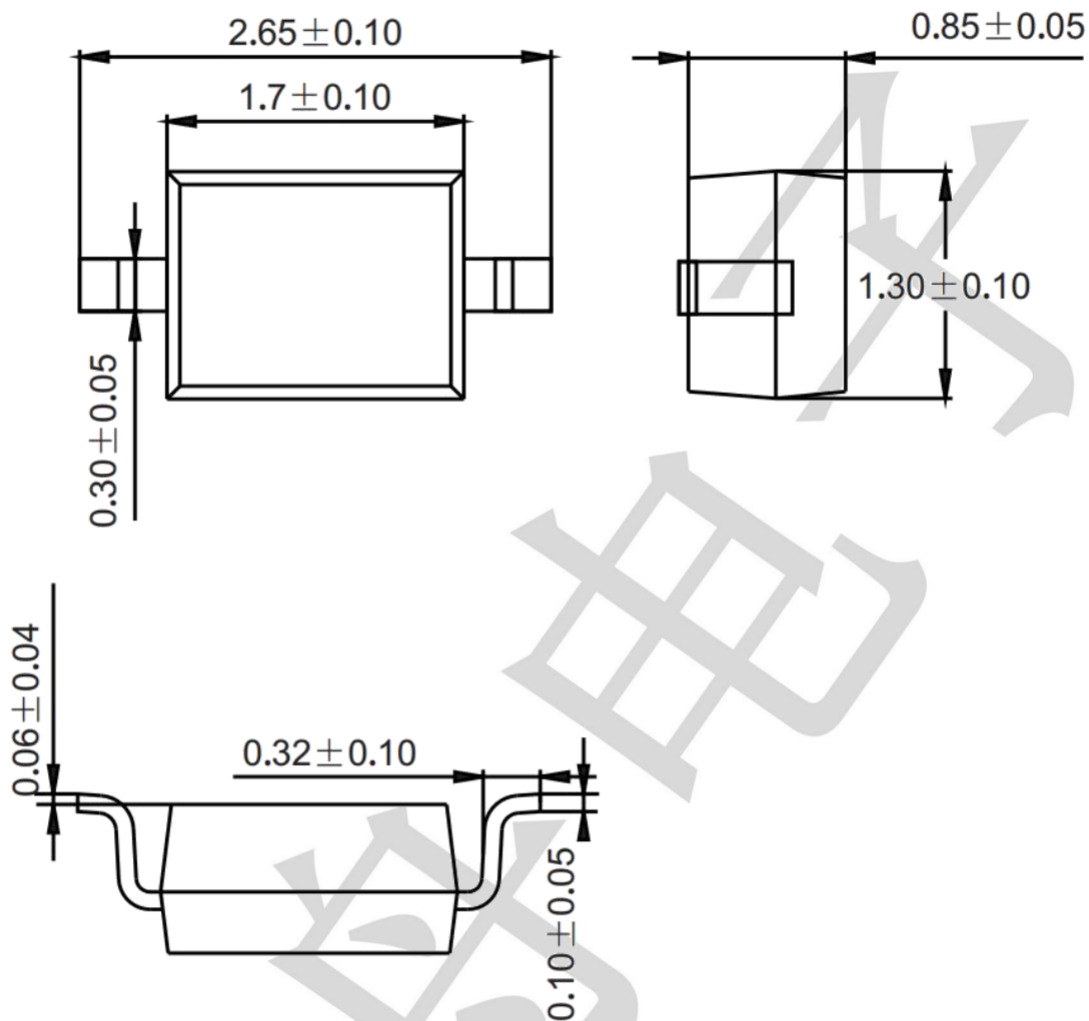


Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min (T_{Smin})	150°C
-Temperature Max (T_{Smax})	200°C
-Time (min to max) (t_s)	60-180 seconds
T_{Smax} to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Package Outline Dimensions (unit: mm)

SOD-323



Mounting Pad Layout (unit: mm)

