

### 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



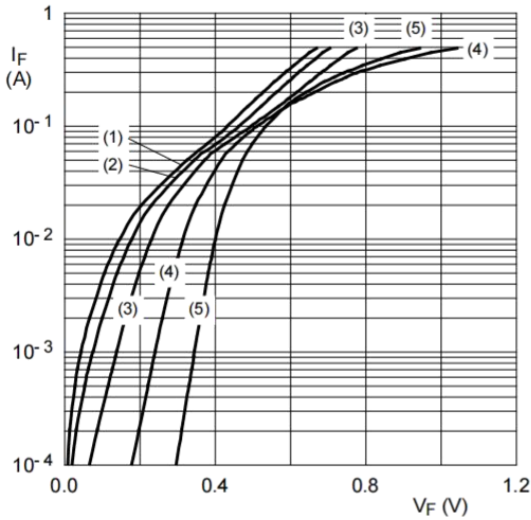
### Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Reverse Voltage	V <sub>RRM</sub>	100	V
Forward Continuous Current	I <sub>F</sub>	150	mA
Repetitive Peak Forward Current	I <sub>FMR</sub>	350	mA
Forward Surge Current@t=8.3ms	I <sub>FSM</sub>	750	mA
Power Dissipation	PD	200	mW
Typical Thermal Resistance per leg @TA = 25°C	R <sub>θJA</sub>	500	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +125	°C

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

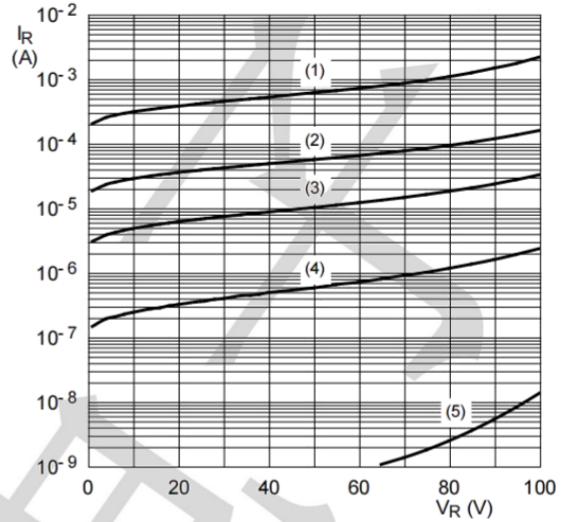
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =100uA	100	--	--	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =1.5V	--	--	0.5	uA
		V <sub>R</sub> =10V	--	--	0.8	uA
		V <sub>R</sub> =50V	--	--	2.0	uA
		V <sub>R</sub> =75V	--	--	5.0	uA
		V <sub>R</sub> =75V, T <sub>J</sub> =60°C	--	--	20	uA
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =0.1mA	--	--	0.25	V
		I <sub>F</sub> =10mA	--	--	0.45	V
		I <sub>F</sub> =250mA	--	--	1.00	V
Total Capacitance	C <sub>tot</sub>	V <sub>R</sub> = 0 V, f = 1 MHz	--	--	10	pF
		V <sub>R</sub> = 1 V, f = 1 MHz	--	--	6.0	pF

### Typical Electrical Characteristic Curves



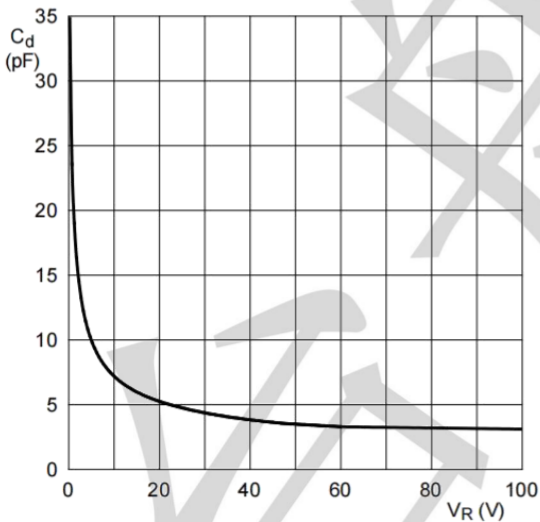
- (1)  $T_{amb} = 150\text{ °C}$
- (2)  $T_{amb} = 125\text{ °C}$
- (3)  $T_{amb} = 85\text{ °C}$
- (4)  $T_{amb} = 25\text{ °C}$
- (5)  $T_{amb} = -40\text{ °C}$

Forward current as a function of forward voltage; typical values



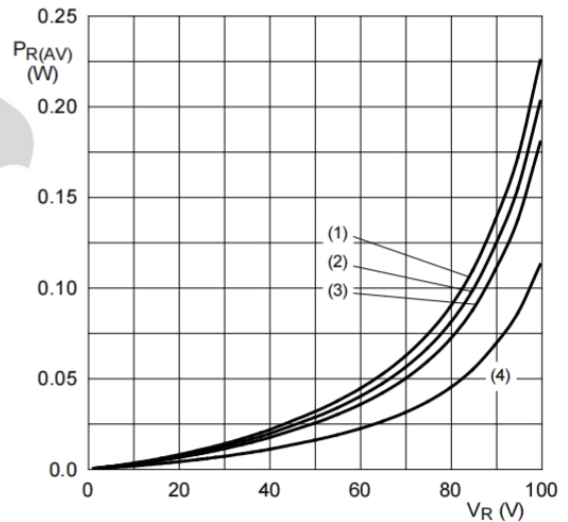
- (1)  $T_{amb} = 125\text{ °C}$
- (2)  $T_{amb} = 85\text{ °C}$
- (3)  $T_{amb} = 60\text{ °C}$
- (4)  $T_{amb} = 25\text{ °C}$
- (5)  $T_{amb} = -40\text{ °C}$

Reverse current as a function of reverse voltage; typical values



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

Diode capacitance as a function of reverse voltage; typical values

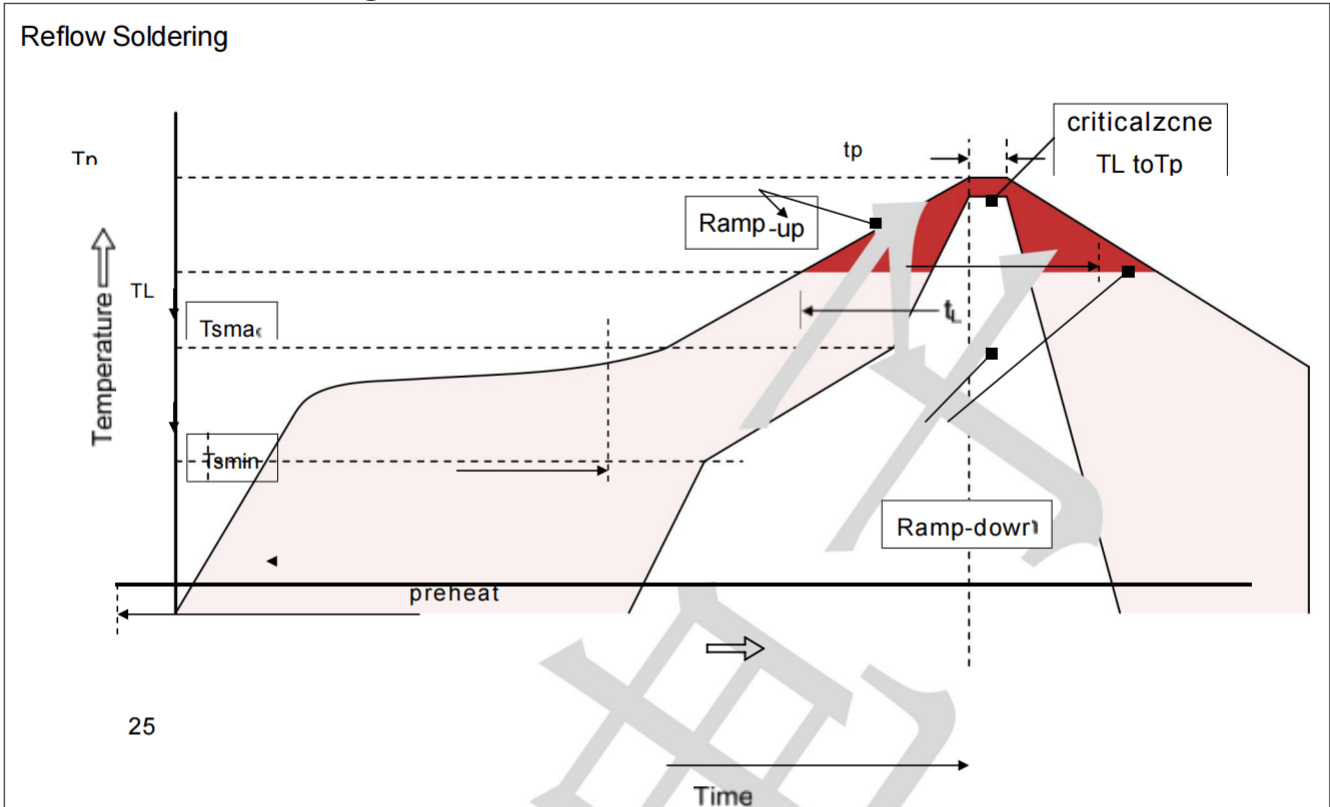


$T_j = 125\text{ °C}$

- (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

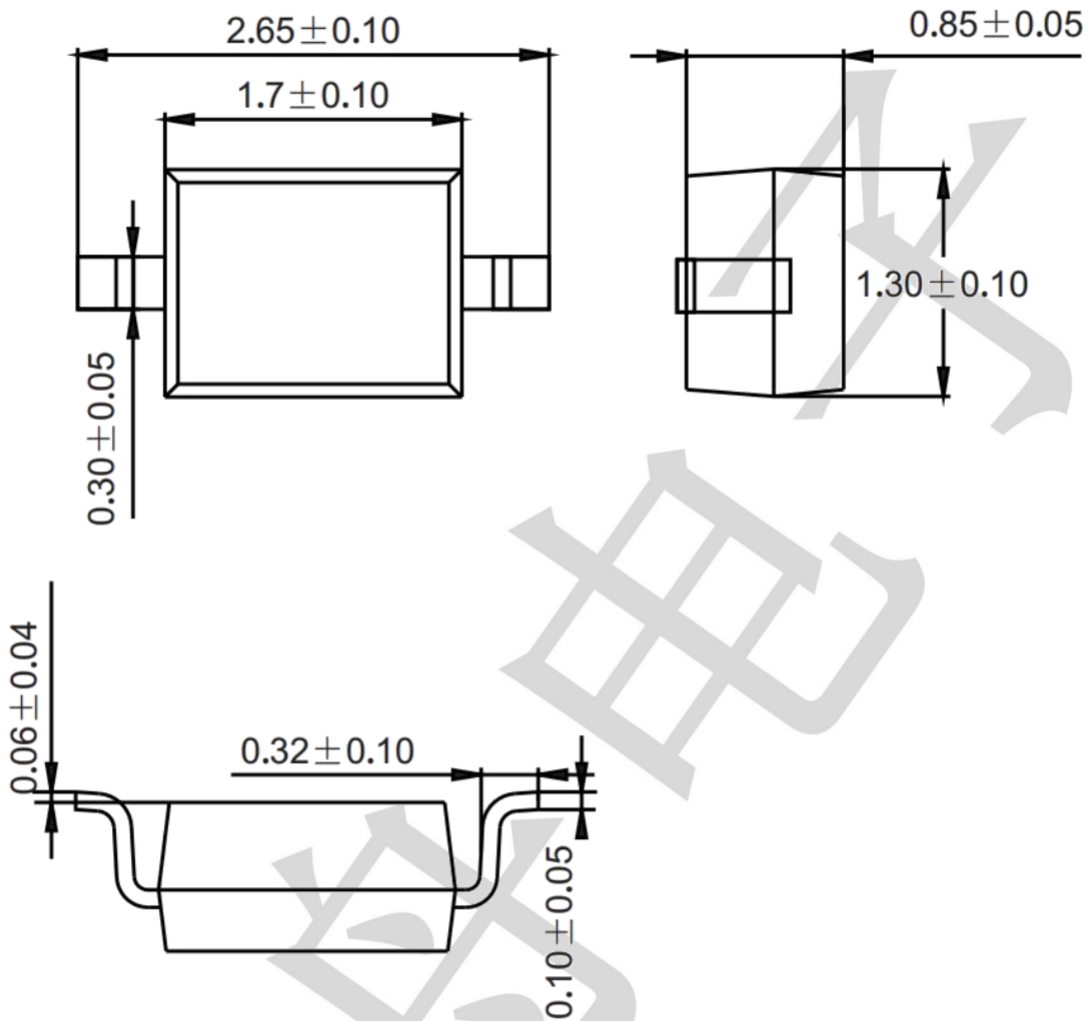


### Recommended Conditions

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)**

