CYStech Electronics Corp.

3.0Amp. Surface Mount Schottky Barrier Diodes

SK3150SB

Features

- For surface mounted applications.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Low leakage current.
- High surge capability.
- High temperature soldering: 260°C/10 seconds at terminals.
- RoHS compliant package

Mechanical Data

- Case: Molded plastic, JEDEC DO-214AA/SMB.
- Terminals: Pure tin plated, solderable per MIL-STD-750 method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.
- Weight: 0.093 gram.

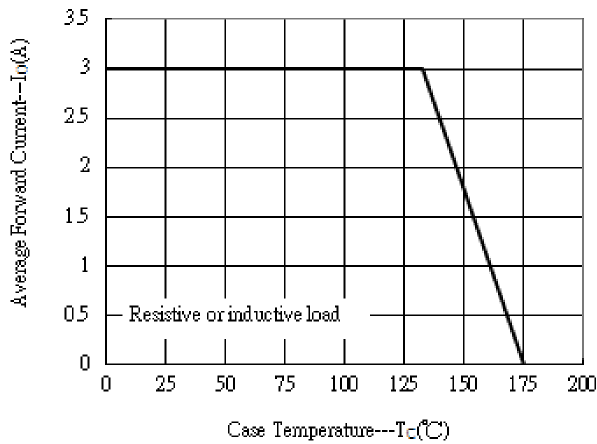
Maximum Ratings and Electrical Characteristics

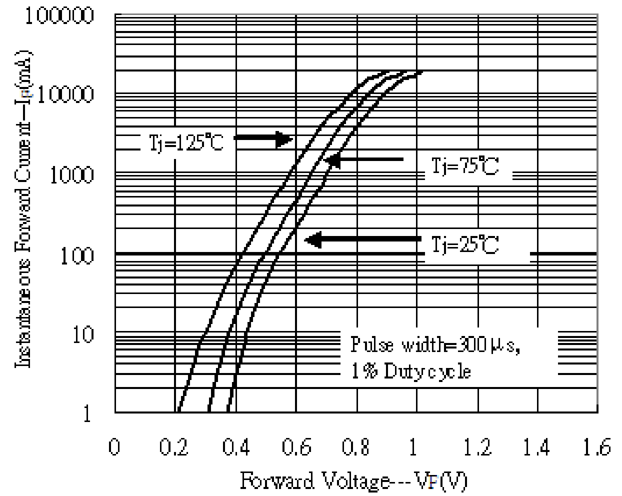
(Rating at 25°C ambient temperature unless otherwise specified.)

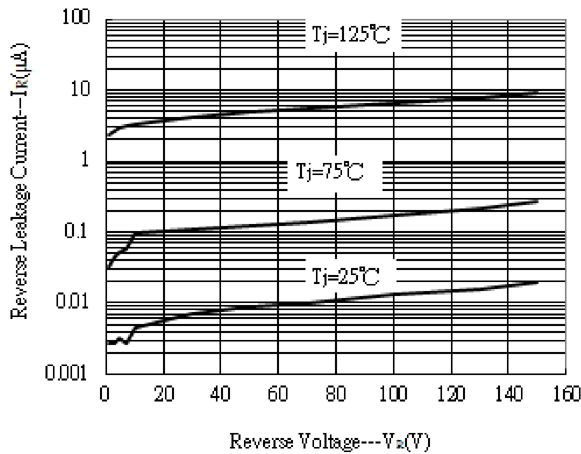
Parameter	Conditions	Symbols	Limits	Units
Maximum Repetitive peak reverse voltage		V_{RRM}	150	V
Maximum RMS voltage		V_{RMS}	105	
Maximum DC blocking voltage		V_R	150	
Maximum instantaneous forward voltage	I_F=3A (Note 1)	V_F	0.9	
Maximum average forward rectified current	T_C=133°C	I_O	3	A
Peak forward surge current	8.3ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	70	
Maximum DC reverse current	V_R=150V,T_A=25℃ (Note 1)	I_R	5	μA
	V_R=150V,T_A=125℃ (Note 1)		200	
Maximum thermal resistance, Junction to ambient (Note 2)		$R_{th,JA}$	40 (typ)	°C/W
Maximum thermal resistance, Junction to lead		$R_{th,JL}$	17 (typ)	
Diode junction capacitance	f=1MHz and applied 4V reverse voltage	C_J	75 (typ)	pF
Storage temperature range		Tstg	-55~+175	°C
Operating temperature range		T_J	-55~+175	

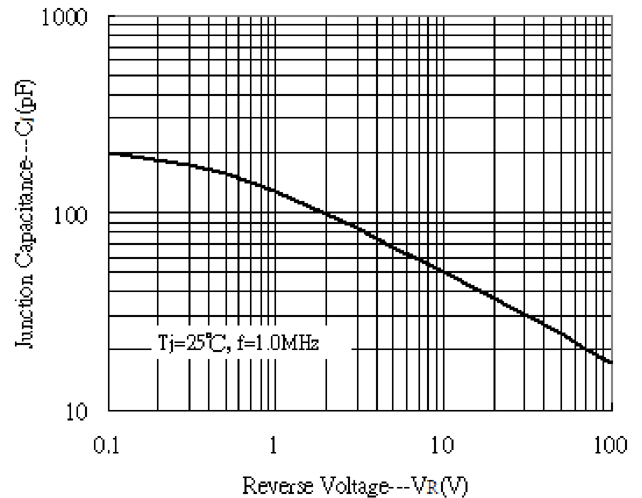
Notes : 1.Pulse test, pulse width=300 μsec, 2% duty cycle
2.Mounted on PCB with 0.2”×0.2”mm² (0.5mm×0.5mm) copper pad area.

Typical Characteristics

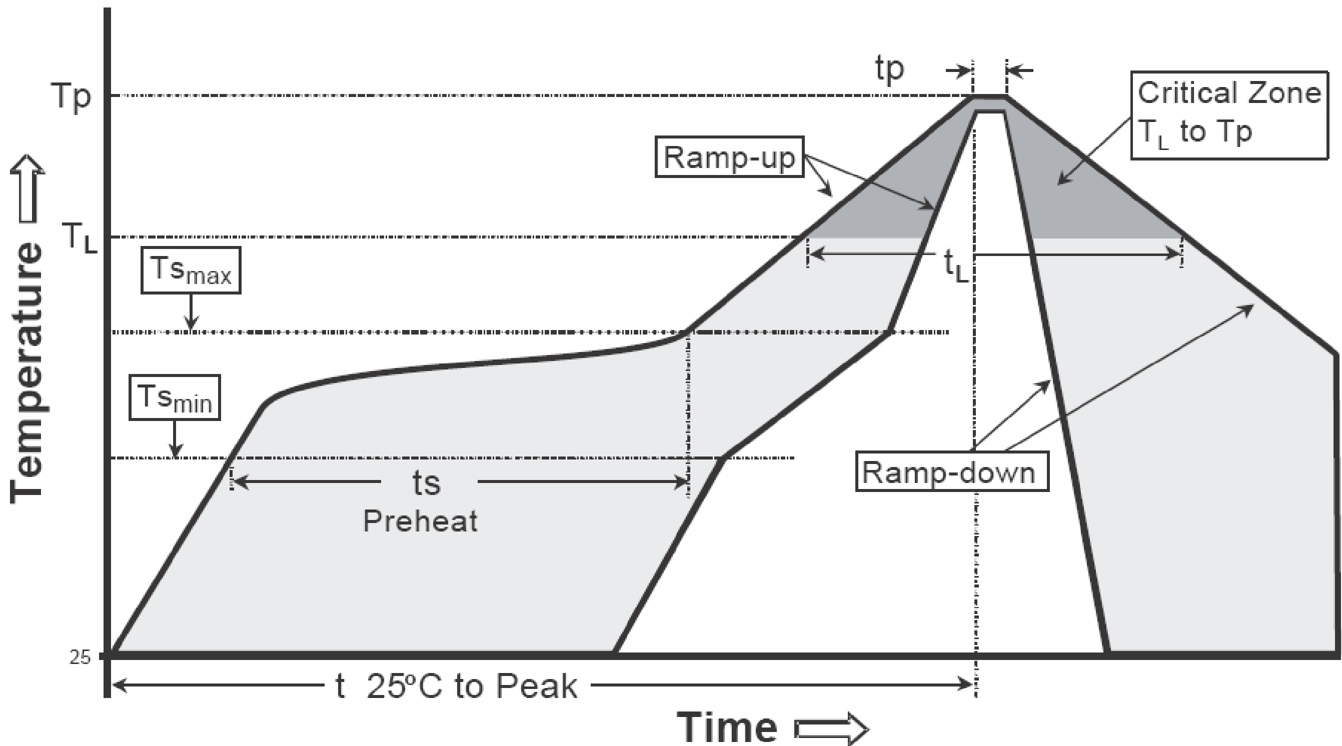








Recommended temperature profile for IR reflow



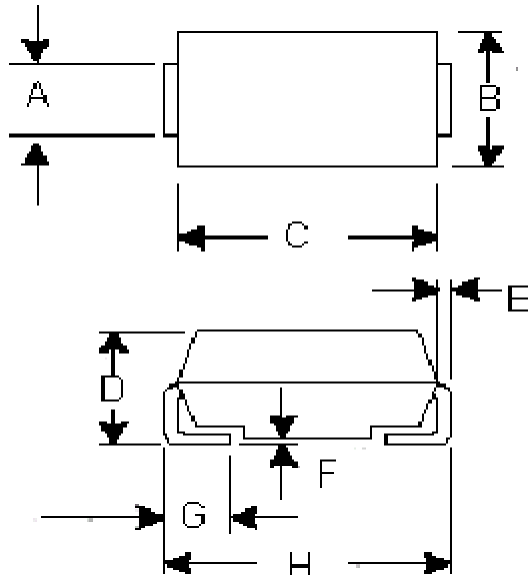
Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(T_S min) −Temperature Max(T_S max) −Time(ts $_{min}$ to ts $_{max}$)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: −Temperature (T_L) − Time (t_L)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T_P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

Ordering Information

Device	Package	Shipping	Marking
SK3150SB	SMB	3000 pcs / Tape & Reel	S315

SMB/DO-214AA Dimension



SMB/DO-214AA Plastic
Surface Mounted Package
CYStek Package Code : SB

*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.075	0.083	1.91	2.11	E	0.006	0.012	0.152	0.305
B	0.130	0.155	3.30	3.94	F	0.002	0.008	0.051	0.203
C	0.160	0.185	4.06	4.70	G	0.030	0.060	0.76	1.52
D	0.083	0.096	2.13	2.44	H	0.200	0.220	5.08	5.59

Notes : 1.Controlling dimension : millimeters.
2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material :

- Lead : Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0.

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