

3.0Amp. Surface Mount Schottky Barrier Diodes

SK320SC-SK3150SC Series

Features

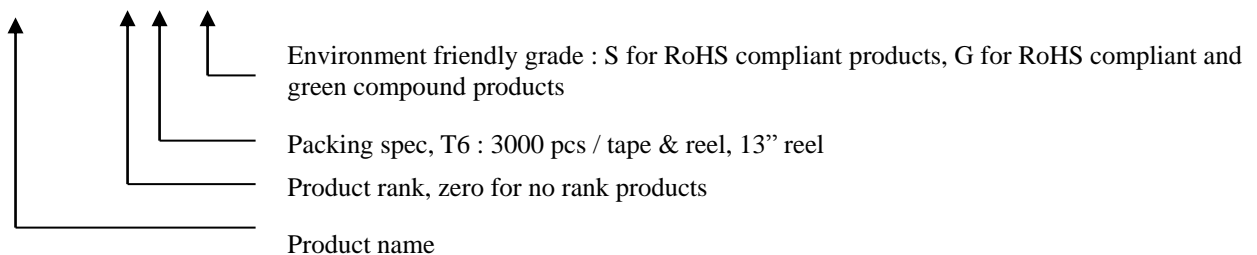
- For surface mounted applications.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Low leakage current
- High surge capability
- High temperature soldering: 250°C/10 seconds at terminals
- Exceeds environmental standards of MIL-S-19500/228

Mechanical Data

- Case: Molded plastic, SMC/JEDEC DO-214AB.
- Terminals: Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight: 0.195 gram, 0.00585 ounce

Ordering Information

Device	Package	Shipping	Marking
SK320SC- 0-T6-G	SMC (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel	SK32
SK340SC- 0-T6-G			SK34
SK360SC- 0 -T6-G			SK36
SK3100SC-0-T6-G			S310
SK3150SC-0-T6-G			S315



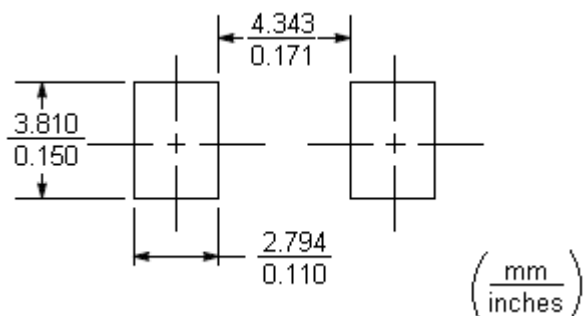
Maximum Ratings and Electrical Characteristics

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

Parameter	Symbol	Type					Units
		SK320	SK340	SK360	SK3100	SK3150	
Repetitive peak reverse voltage	V_{RRM}	20	40	60	100	150	V
Maximum RMS voltage	V_{RMS}	14	28	42	70	105	V
Maximum DC blocking voltage	V_R	20	40	60	100	150	V
Maximum instantaneous forward voltage, $I_F=3A$	V_F	0.50	0.50	0.7	0.85	0.9	V
Average forward rectified current	I_O	3					A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	80					A
Maximum DC reverse current $V_R=V_{RRM}, T_A=25^\circ C$ $V_R=V_{RRM}, T_A=125^\circ C$	I_R	0.5 50					mA mA
Maximum thermal resistance, Junction to ambient	$R_{th,JA}$	55					°C/W
Maximum thermal resistance, Junction to lead	$R_{th,JL}$	17 (Note)					
Diode junction capacitance @ $f=1MHz$ and applied 4VDC reverse voltage	C_J	250(typ)					pF
Storage temperature	T_{stg}	-55 ~ +150					°C
Operating temperature	T_J	-55 ~ +125		-55 ~ +150			°C

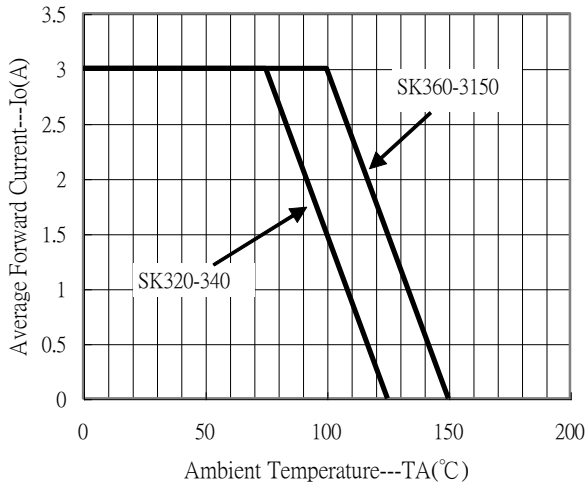
Note : Measure on PCB with 0.2"×0.2"(5mm×5mm) copper pad area.

Recommended soldering footprint

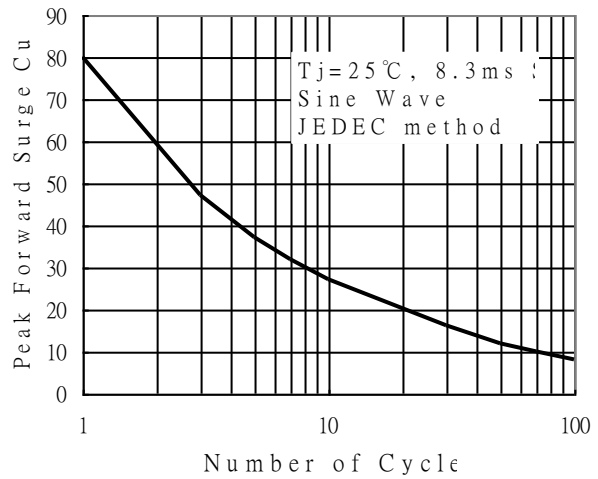


Characteristic Curves

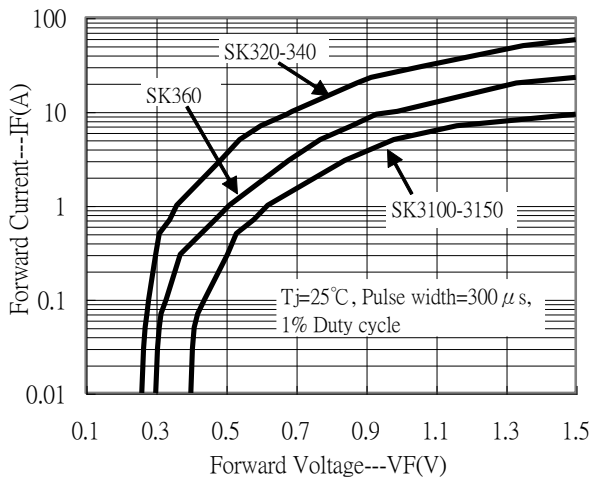
Forward Current Derating Curve



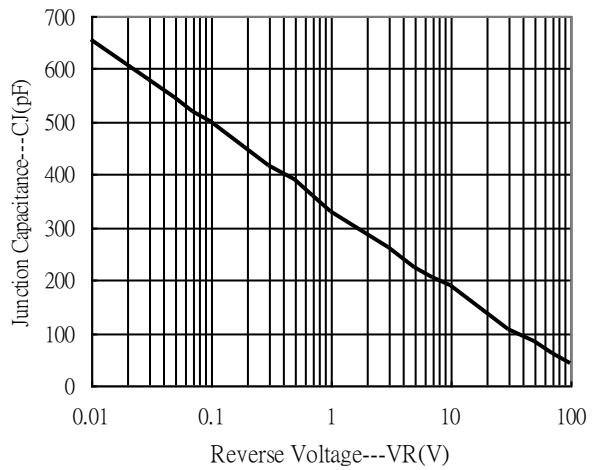
Maximum Non-Repetitive Forward Surge Current



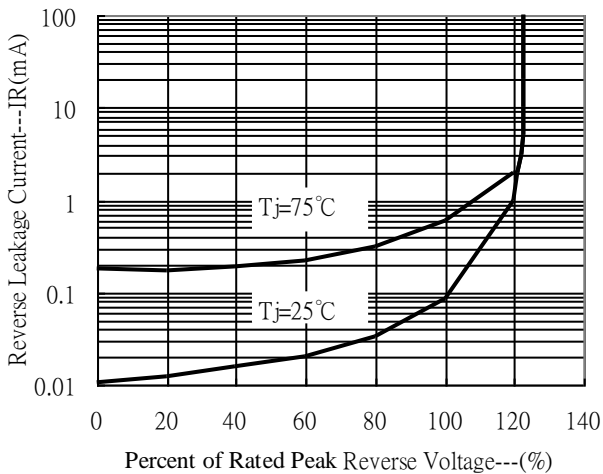
Forward Current vs Forward Voltage



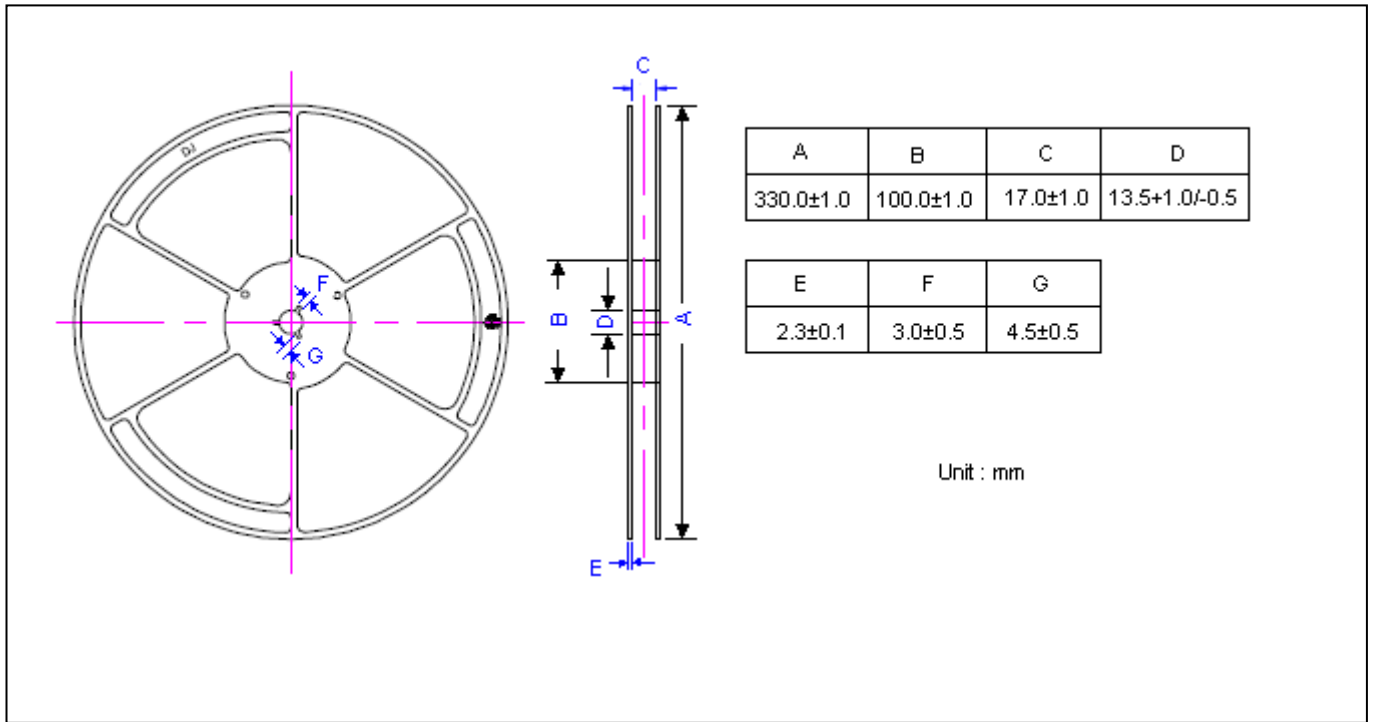
Junction Capacitance vs Reverse Voltage



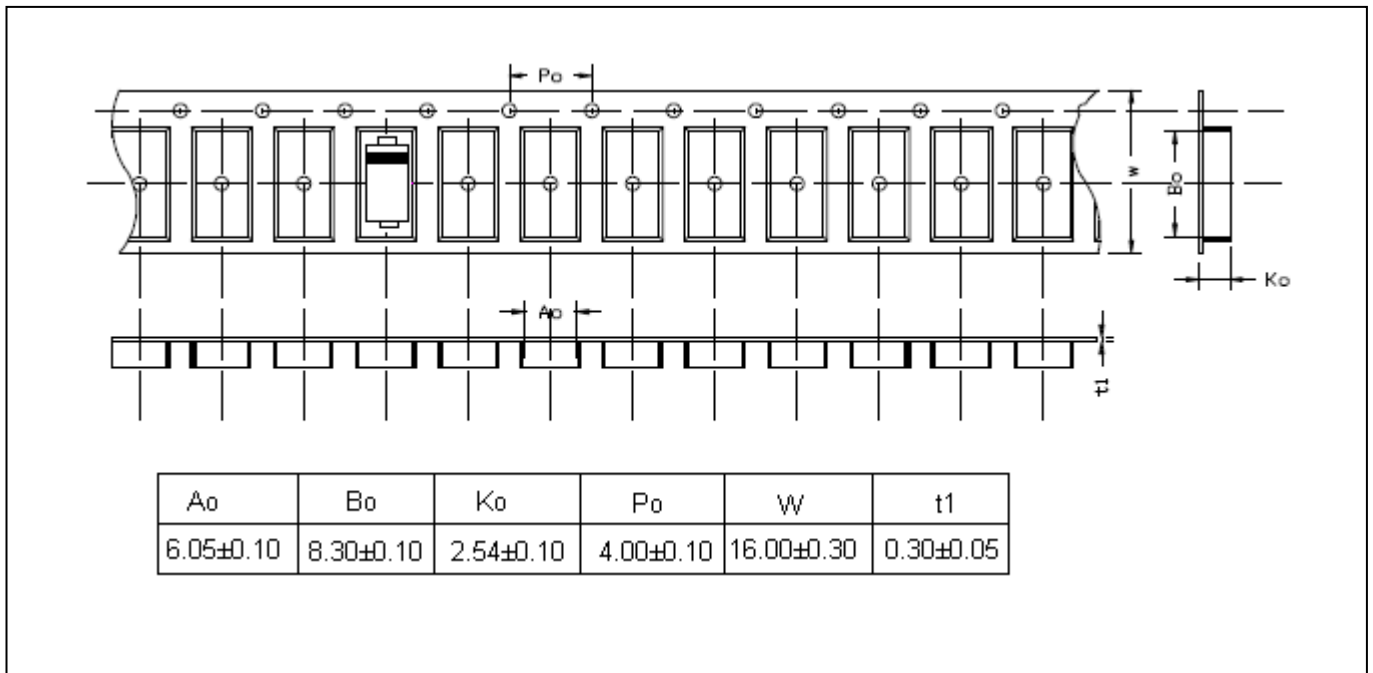
Reverse Leakage Current vs Reverse Voltage



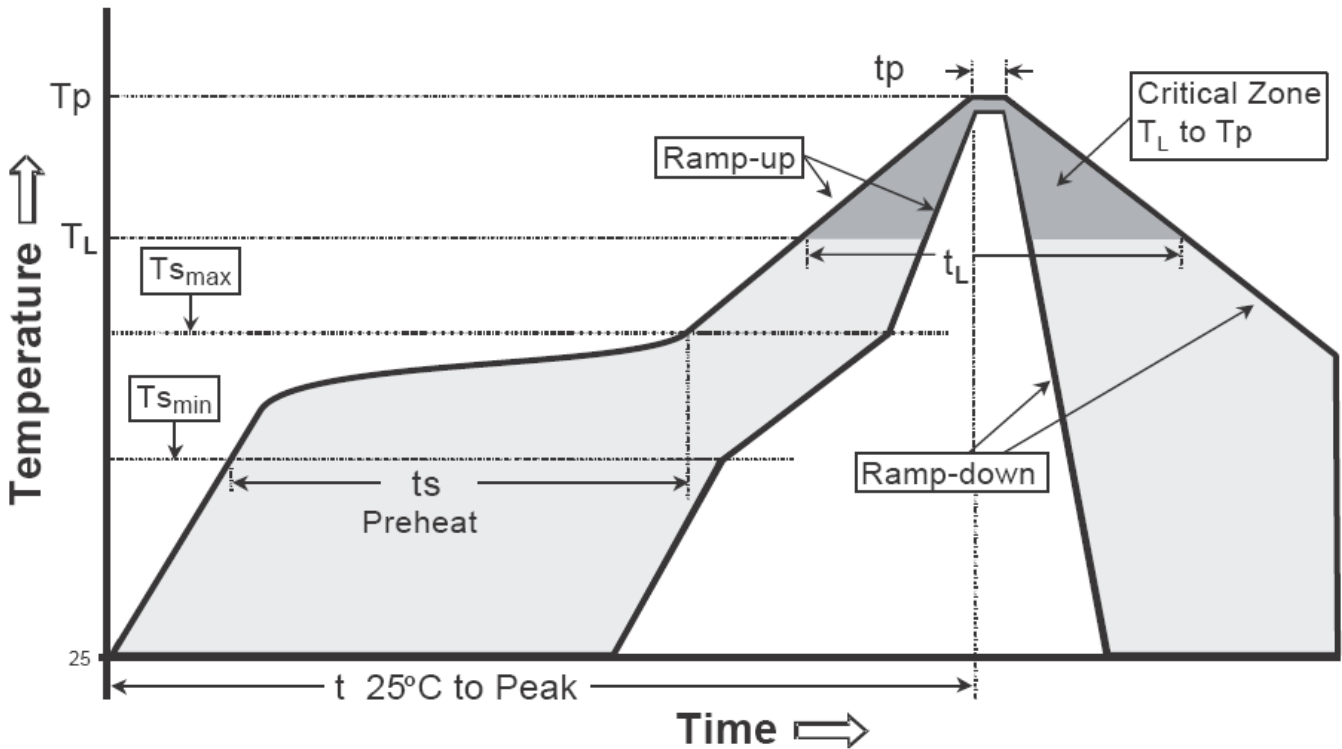
Reel Dimension



Carrier Tape Dimension



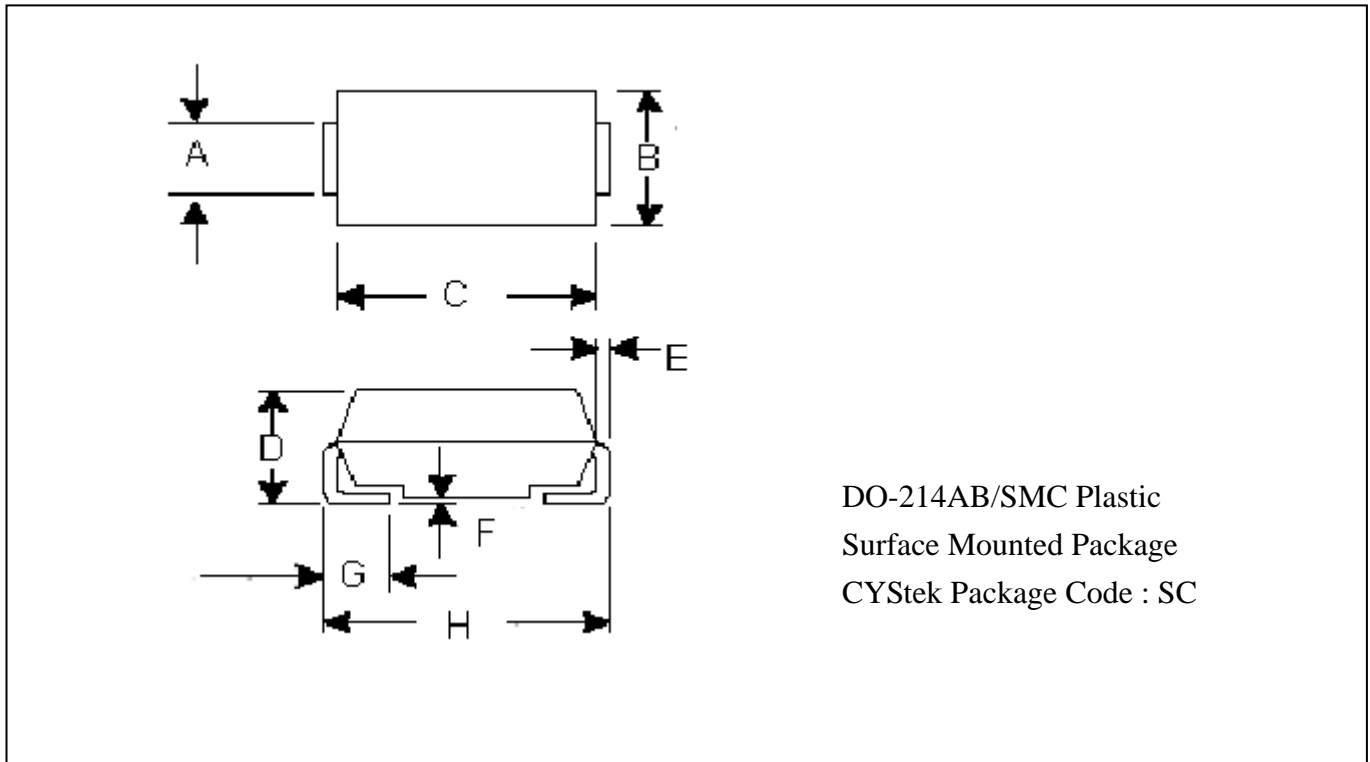
Recommended temperature profile for IR reflow



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(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (Tl)	183°C	217°C
- Time (tl)	60-150 seconds	60-150 seconds
Peak Temperature(Tp)	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.

DO-214AB/SMC Dimension



*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.110	0.126	2.80	3.20	E	0.006	0.012	0.15	0.31
B	0.220	0.245	5.59	6.22	F	0.002	0.008	0.05	0.20
C	0.260	0.283	6.60	7.20	G	0.030	0.060	0.76	1.52
D	0.078	0.103	1.98	2.62	H	0.305	0.320	7.75	8.13

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.

Important Notice:

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of CYStek.
- CYStek reserves the right to make changes to its products without notice.
- CYStek **semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.**
- CYStek assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.