



## 5.0Amp. Surface Mount Schottky Barrier Diodes

# SK5150SC

### Features

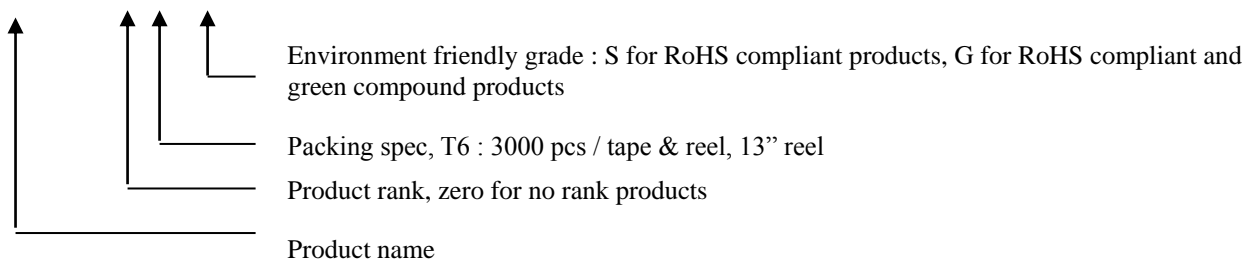
- For surface mounted applications.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Low leakage current
- High surge capability
- High temperature soldering: 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
SK5150SC-0-T6-G	SMC (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel	S515

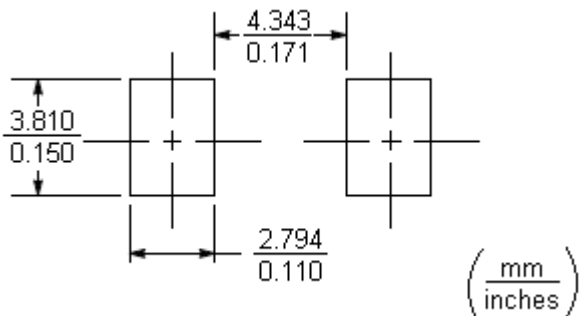


## Maximum Ratings and Electrical Characteristics

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

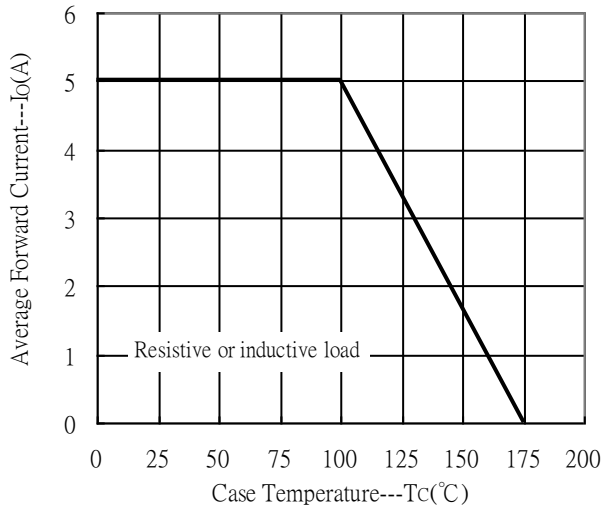
Parameter	Symbol	Limits	Units
Repetitive peak reverse voltage	$V_{RRM}$	150	V
Maximum RMS voltage	$V_{RMS}$	105	V
Maximum DC blocking voltage	$V_R$	150	V
Maximum instantaneous forward voltage, $I_F=5A$ (Note 1)	$V_F$	0.9	V
Average forward rectified current @ $T_C=100^\circ C$	$I_O$	5	A
Peak forward surge current @ 8.3ms single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150	A
Maximum DC reverse current $V_R=150V, T_A=25^\circ C$ $V_R=150V, T_A=125^\circ C$	$I_R$	5 500	$\mu A$
Maximum thermal resistance, Junction to ambient	$R_{th,JA}$	50(typ)	$^\circ C/W$
Maximum thermal resistance, Junction to case	$R_{th,JC}$	16(typ)	$^\circ C/W$
Diode junction capacitance @ $f=1MHz$ and applied 4VDC Reverse voltage	$C_J$	105(typ)	pF
Operating Junction and Storage temperature Range	$T_{stg} ; T_J$	-55 ~ +175	$^\circ C$

## Recommended soldering footprint

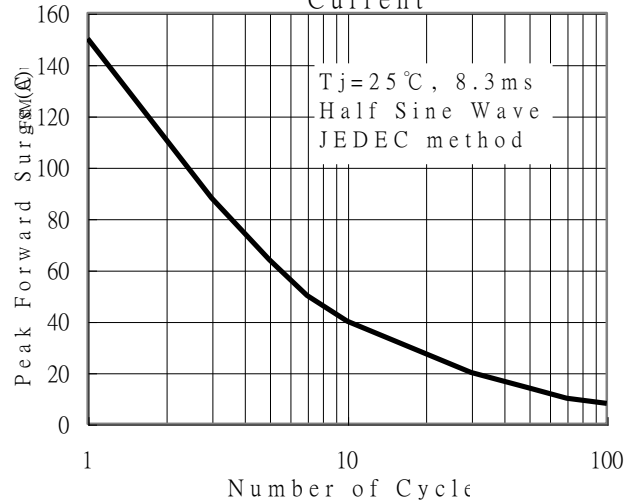


## Typical Characteristics

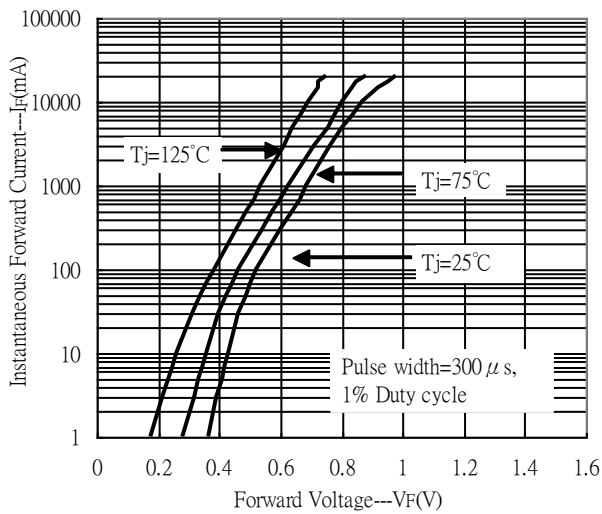
Forward Current Derating Curve



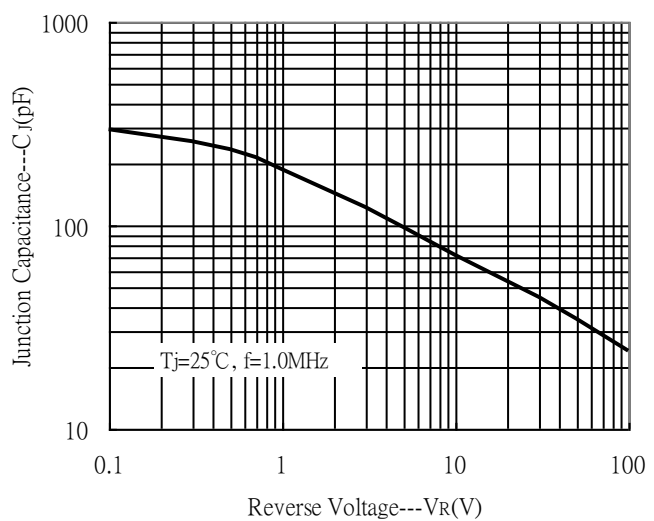
Maximum Non-Repetitive Current



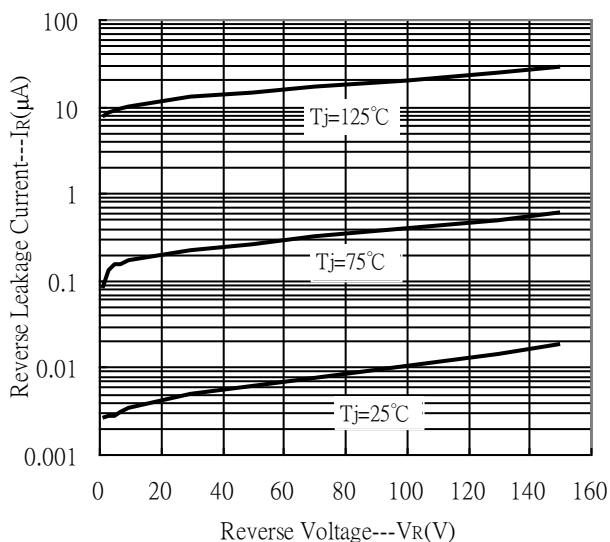
Forward Current vs Forward Voltage



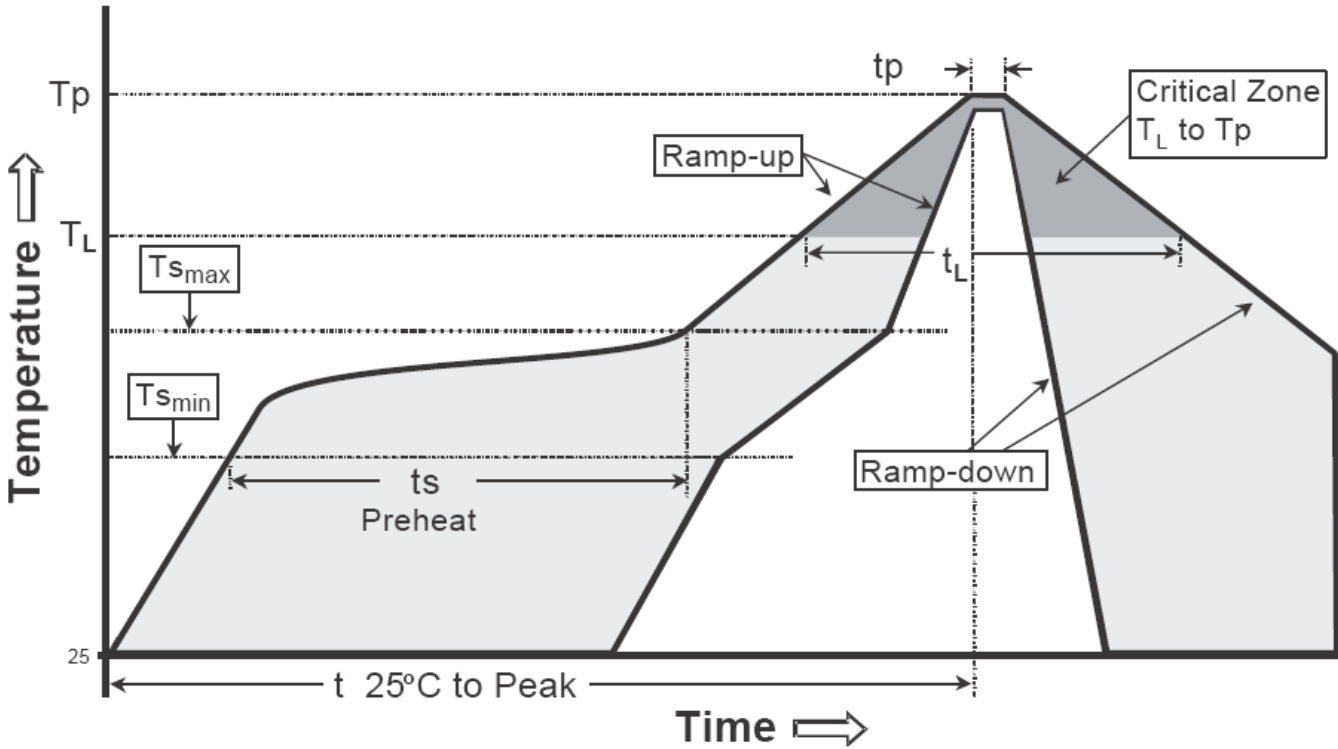
Junction Capacitance vs Reverse Voltage



Reverse Leakage Current vs Reverse Voltage



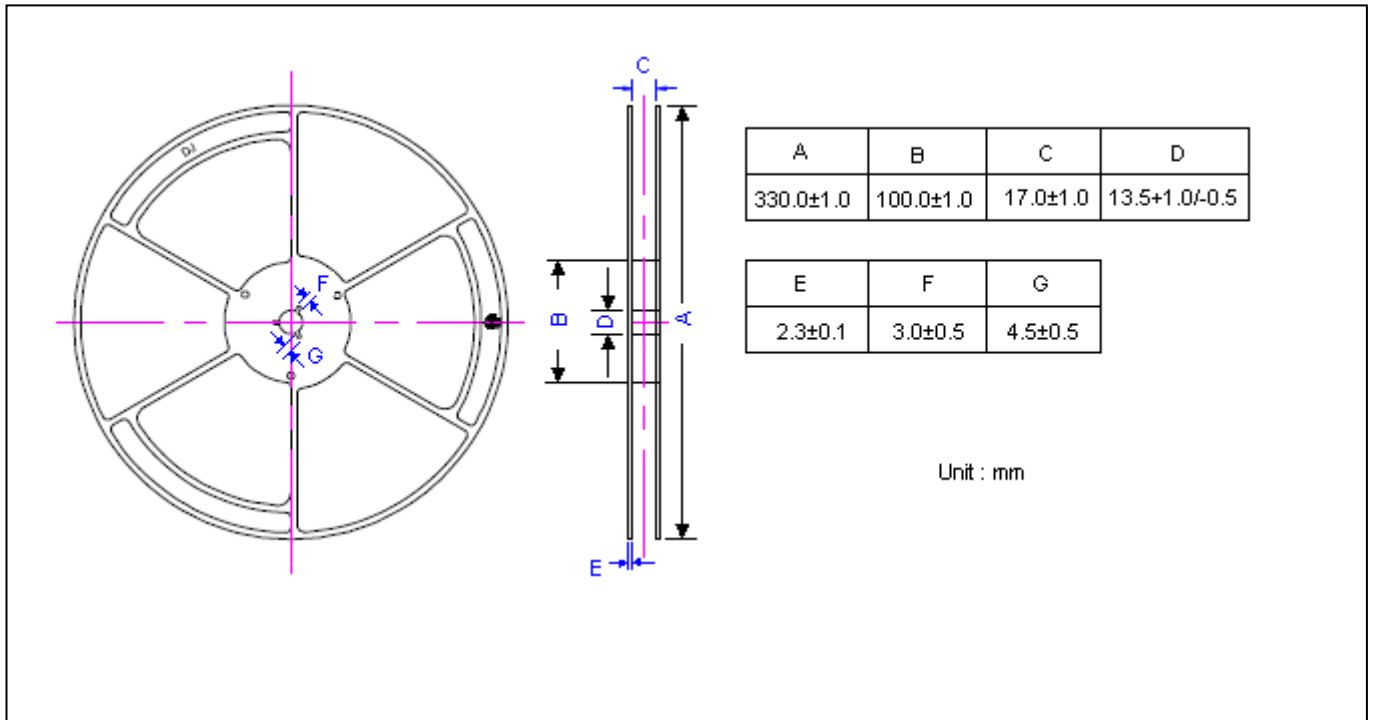
**Recommended temperature profile for IR reflow**



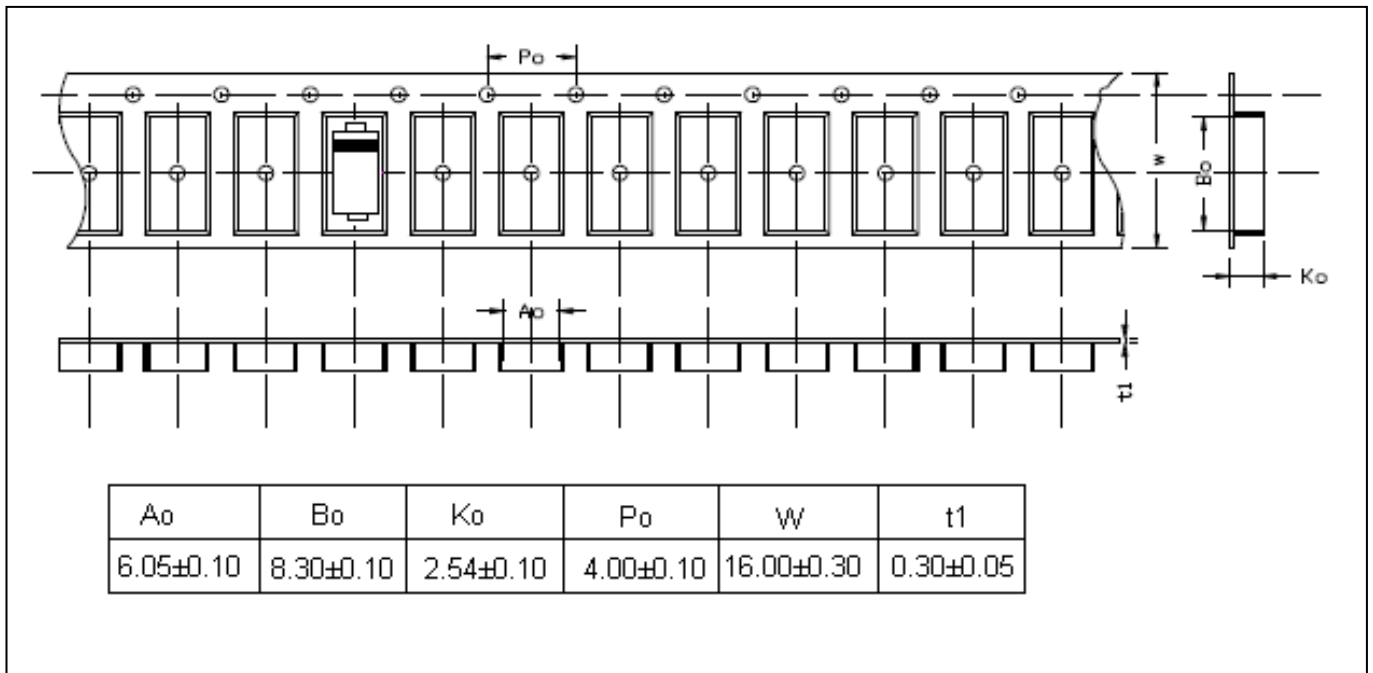
Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T <sub>smax</sub> to T <sub>p</sub> )	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(T <sub>s min</sub> )	100°C	150°C
-Temperature Max(T <sub>s max</sub> )	150°C	200°C
-Time(t <sub>s min</sub> to t <sub>s max</sub> )	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T <sub>L</sub> )	183°C	217°C
- Time (t <sub>L</sub> )	60-150 seconds	60-150 seconds
Peak Temperature(T <sub>p</sub> )	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.

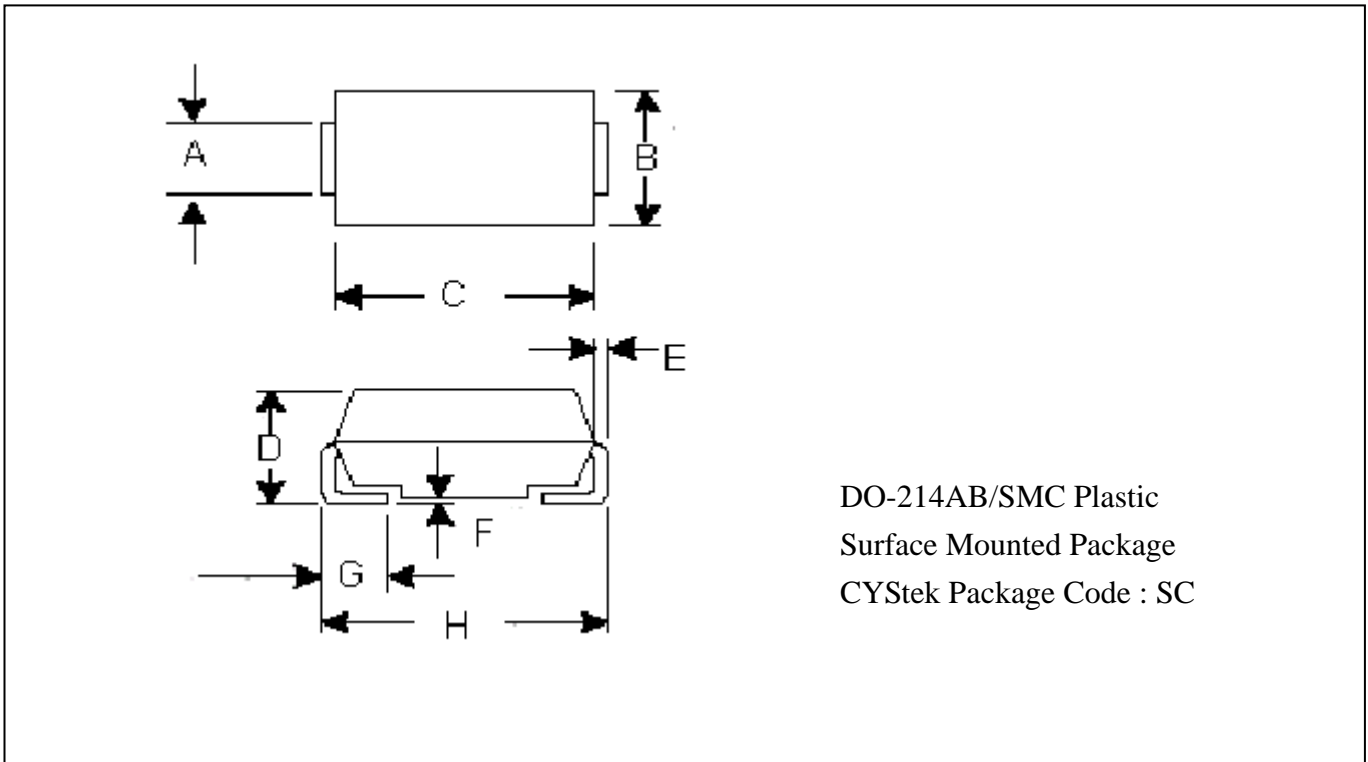
**Reel Dimension**



**Carrier Tape Dimension**



**DO-214AB/SMC Dimension**



\*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.114	0.126	2.90	3.20	E	0.006	0.012	0.15	0.31
B	0.220	0.245	5.59	6.22	F	0.004	0.008	0.10	0.20
C	0.260	0.280	6.60	7.11	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.

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