

**3.0Amp Schottky Barrier Rectifiers**  
**Reverse Voltage 150V and 200V    Forward Current 3A**  
**SB3150 and SB3200**

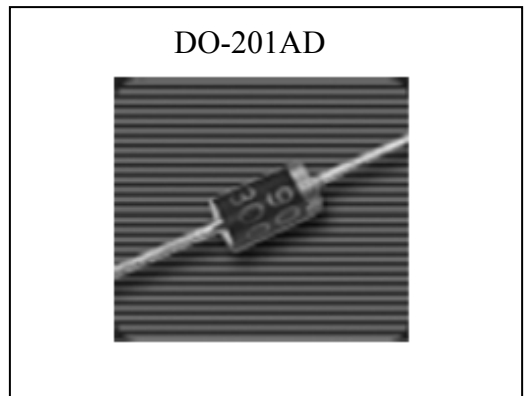
**Features**

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Epitaxial construction

**Mechanical Data**

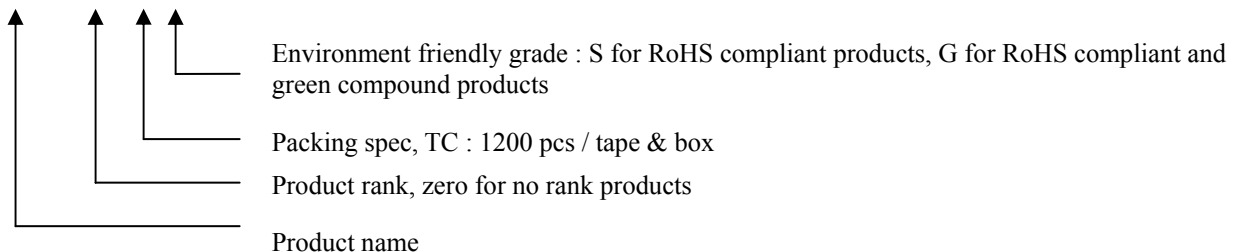
- Case : JEDEC DO-201AD molded plastic body
- Epoxy : UL94V-0 rate flame retardant
- Terminals: Plated axial leads, solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end.
- Mounting Position : Any.
- Weight: 1.10 grams

**Outline**



**Ordering Information**

Device	Package	Shipping
SB3150- 0-TC-G	DO-201AD	1200 pcs / Tape & Box
SB3200- 0-TC-G	(Pb-free lead plating and halogen-free package)	



**Maximum Ratings and Electrical Characteristics**

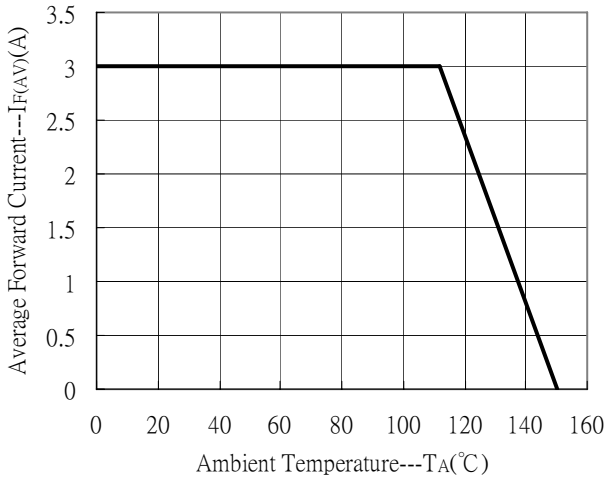
(Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%)

Parameter	Symbol	Type		Units
		SB3150	SB3200	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	150	200	V
Maximum RMS voltage	V <sub>RMS</sub>	105	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	150	200	V
Maximum instantaneous forward voltage at 3A <sup>1</sup>	V <sub>F</sub>	0.89		V
Maximum average forward rectified current	I <sub>F(AV)</sub>	3		A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	80		A
Maximum DC reverse current at rated DC blocking voltage <sup>1</sup>	I <sub>R</sub>	T <sub>A</sub> =25°C	0.5	mA
		T <sub>A</sub> =100°C	10	
Typical junction capacitance	C <sub>J</sub>	250		pF
Typical thermal resistance	R <sub>θJA</sub>	20		°C/W
Operating junction temperature range	T <sub>J</sub>	-55 ~ +150		°C
Storage temperature range	T <sub>STG</sub>	-55 ~ +150		°C

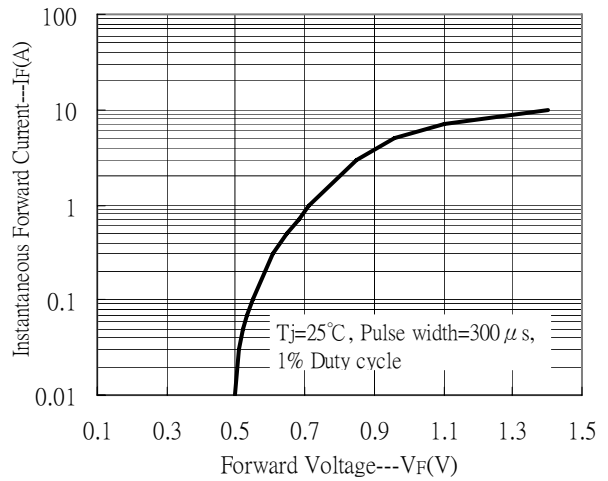
Note: 1.Pulse test: pulse width≤300μs, duty cycle≤2%

**Characteristic Curves**

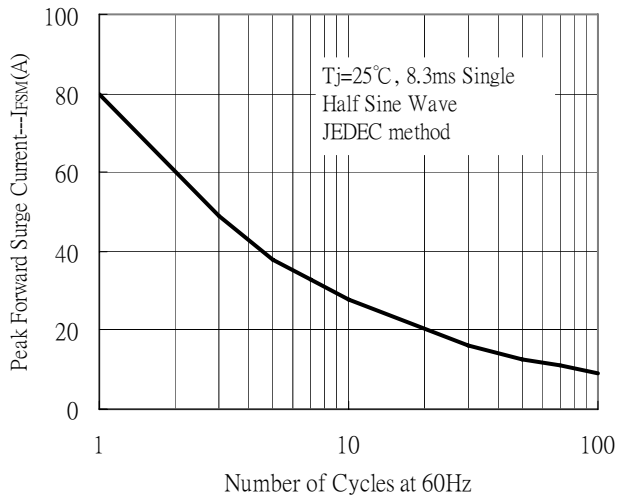
Forward Current Derating Curve



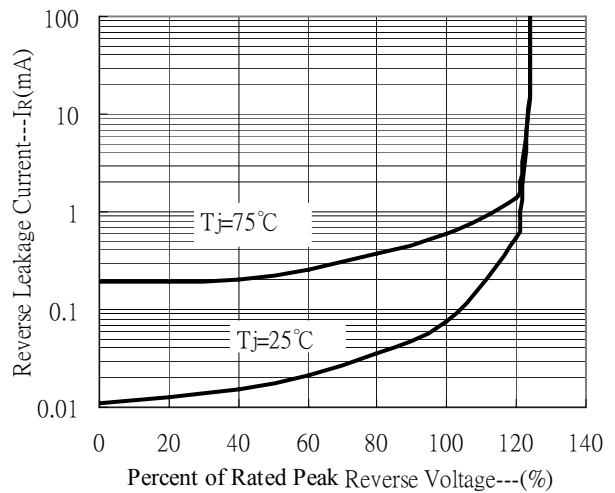
Forward Current vs Forward Voltage



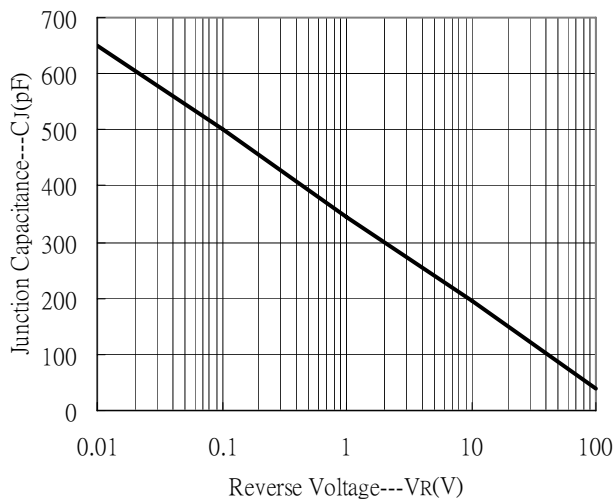
Maximum Non-Repetitive Forward Surge Current



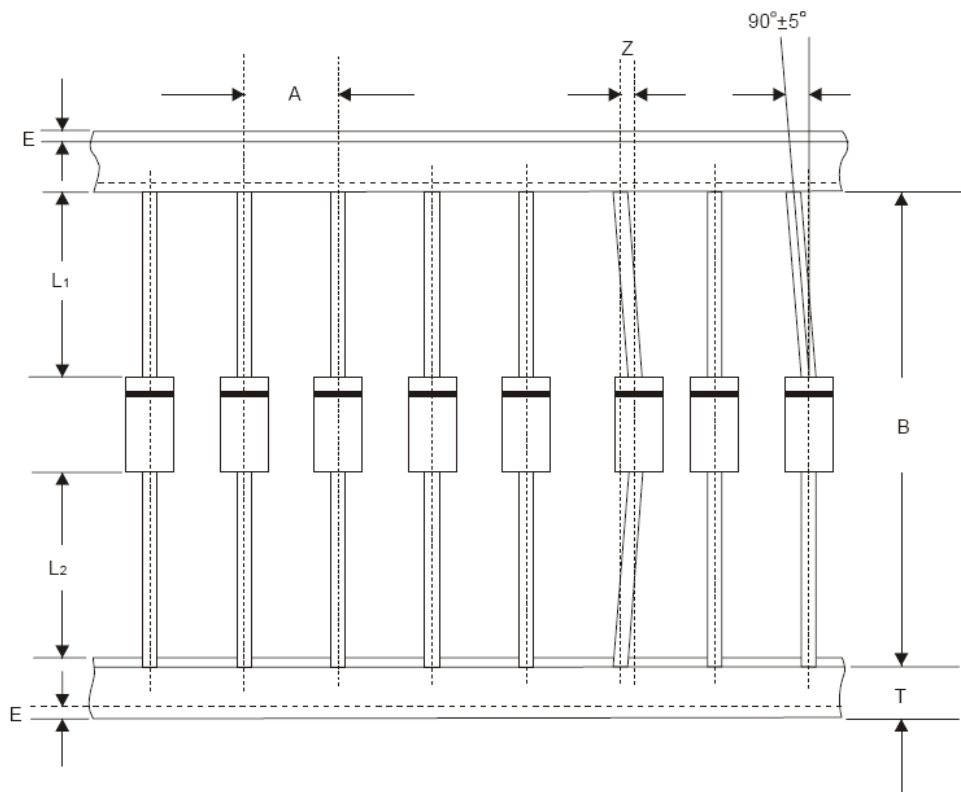
Reverse Leakage Current vs Reverse Voltage



Junction Capacitance vs Reverse Voltage



## Taping Dimension



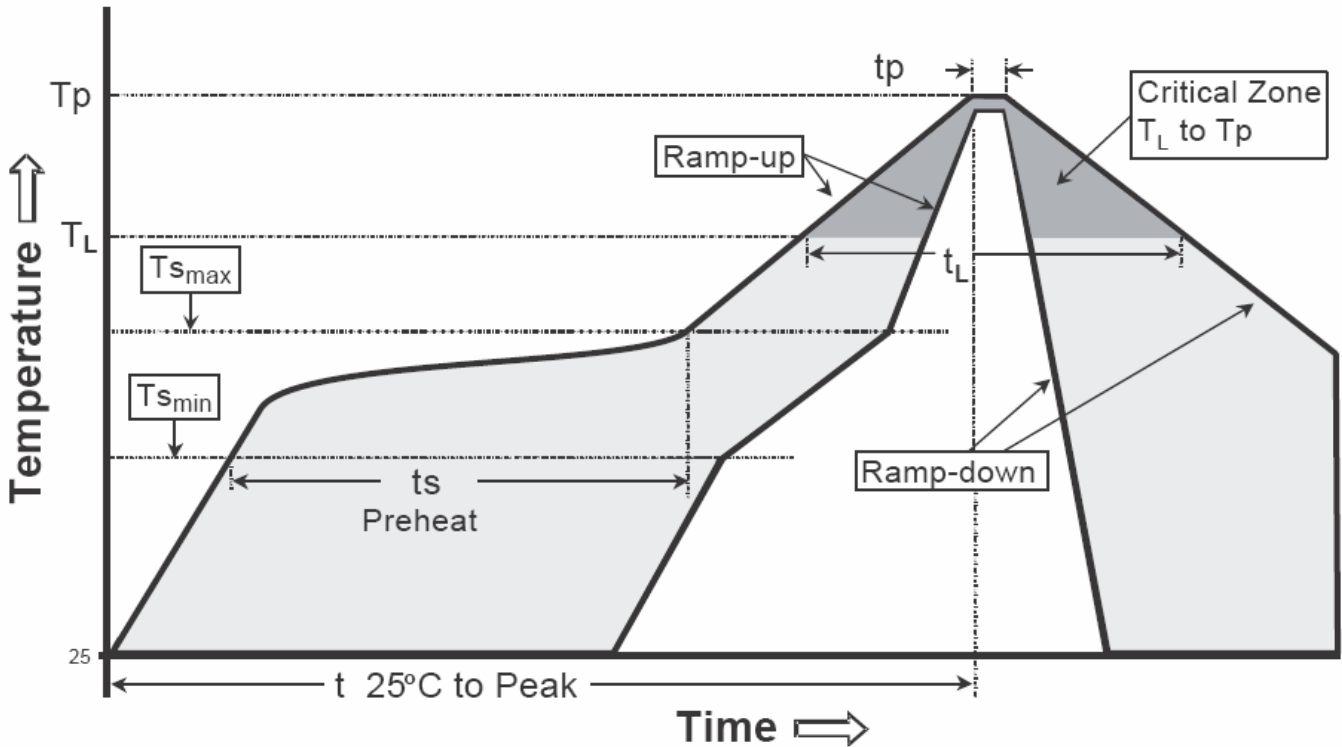
ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Component pitch	A	$10 \pm 0.5$	$0.197 \pm 0.020$
Inner tape pitch	B	$52.4^{+0.5}_{-0.5}$	$2.063^{+0.059}_{-0.059}$
Component alignment	Z	1.2 max.	0.048 max.
Tape width	T	$6.0 \pm 0.4$	$0.236 \pm 0.016$
Exposed adhesive	E	0.8 max.	0.032 max.
Body eccentricity	L1-L2	1.0 max.	0.040 max.

- NOTES: 1. Each component lead shall be sandwiched between tapes for a minimum of 3.2mm (0.126").  
 2. The tolerance for cumulative pitch is 2.0mm/20 pitch.

**Recommended wave soldering condition**

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

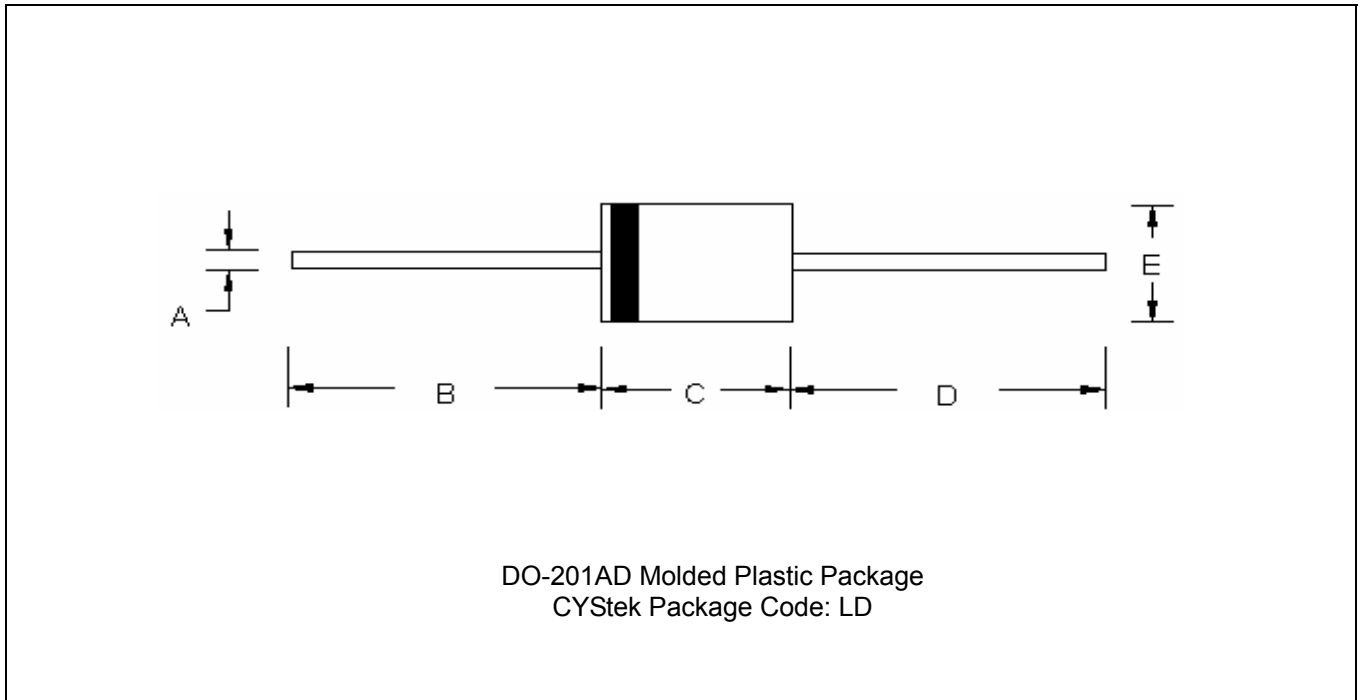
**Recommended temperature profile for IR reflow**



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.

## DO-201AD Dimension



DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	φ0.048	φ0.052	φ1.20	φ1.30	D	1.000	-	25.40	-
B	1.000	-	25.40	-	E	φ0.190	φ0.210	φ4.80	φ5.30
C	0.285	0.375	7.20	9.50					

**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 : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
- Mold Compound : Epoxy resin family, flammability solid burning class: UL94V-0

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