

## 5.0Amp Schottky Barrier Rectifiers

### Reverse Voltage 120V    Forward Current 5A

# SB5120

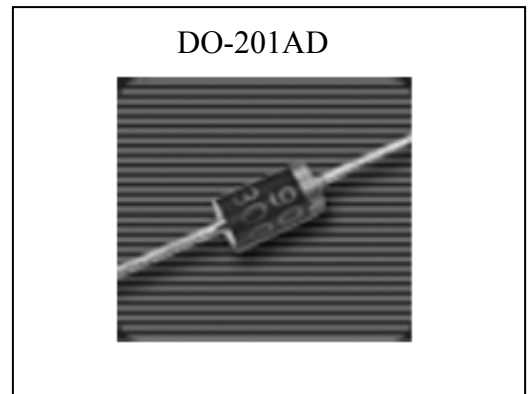
### Features

- Guard ring for over voltage protection.
- Plastic package has UL flammability classification 94V-0
- Low power loss, high efficiency
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### Mechanical Data

- Case : JEDEC DO-201AD molded plastic body
- Epoxy : UL94V-0 rate flame retardant
- Terminals: Plated axial leads, solderable per MIL-STD-750 method 2026. High temperature soldering guaranteed: 250°C/10seconds, 0.375”(9.5mm) lead length, 5lbs(2.3kg) tension
- Polarity: Color band denotes cathode end.
- Mounting Position : Any.
- Weight: 0.041 oz., 1.15 gram

### Outline



### 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
		SB5120	
Maximum repetitive peak reverse voltage	$V_{RRM}$	120	V
Maximum RMS voltage	$V_{RMS}$	84	V
Maximum DC blocking voltage	$V_{DC}$	120	V
Maximum instantaneous forward voltage at 5A <sup>1</sup>	$V_F$	0.92	V
Maximum average forward rectified current @ 0.375”(9.5mm) lead length (see Fig 1)	$I_{F(AV)}$	5	A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method) at rated $T_L$	$I_{FSM}$	125	A
Maximum DC reverse current at rated DC blocking voltage <sup>1</sup>	$I_R$	$T_A=25^\circ C$	0.1
		$T_A=100^\circ C$	5
Typical thermal resistance <sup>2</sup>	$R_{\theta JL}$	10	°C/W
Operating junction temperature range	$T_J$	-55 ~ +175	°C
Storage temperature range	$T_{STG}$	-55 ~ +175	°C

Note: 1.Pulse test: pulse width $\leq$ 300 $\mu$ s, duty cycle $\leq$ 1%

2.Thermal resistance, junction to lead, vertical PCB mounted, 0.375”(9.5mm) lead length

**Characteristic Curves**

Fig.1- Forward Current

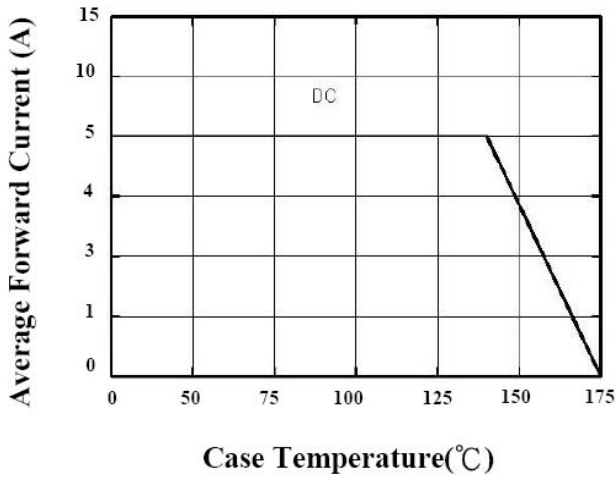


Fig.2- Typical Instantaneous Forward

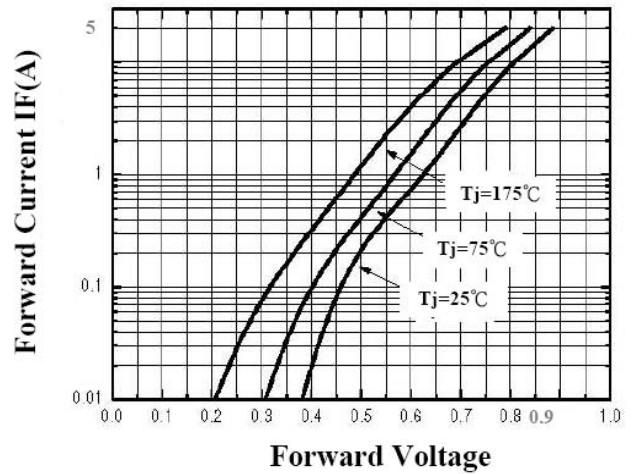


Fig.3- Typical Reverse

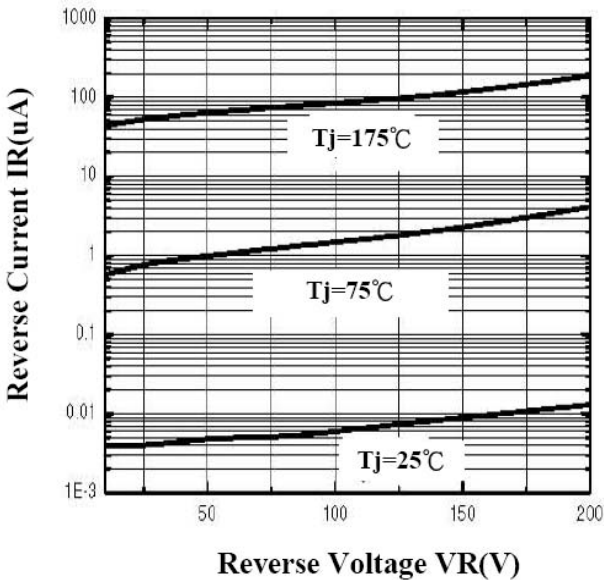
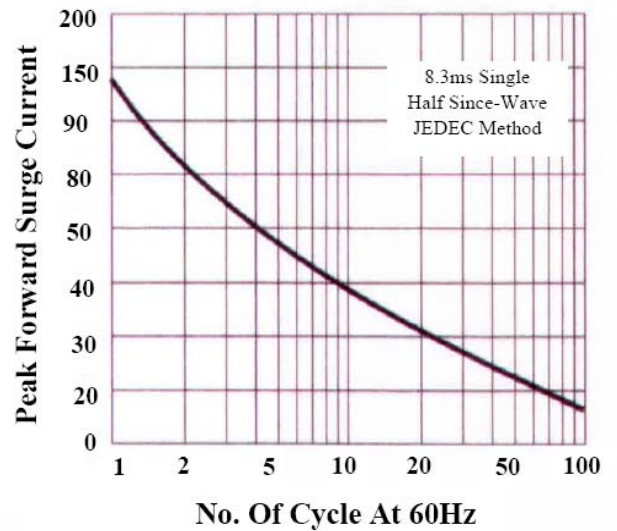
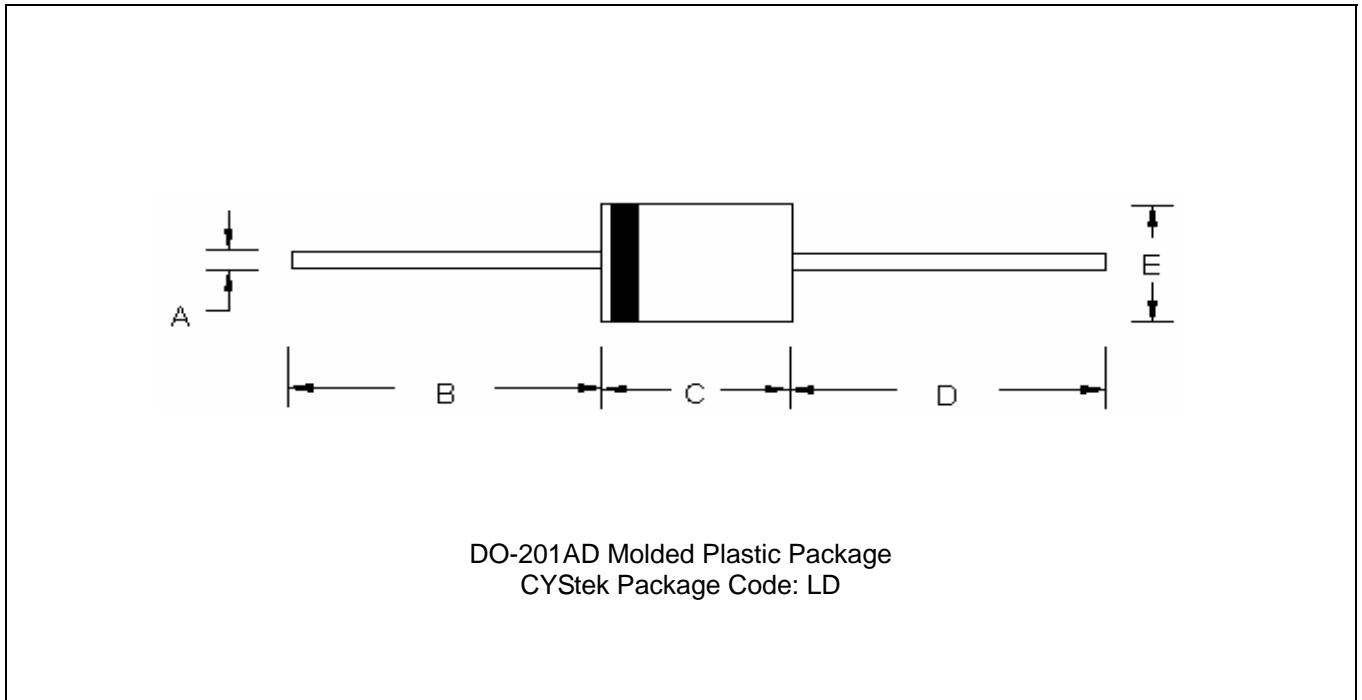


Fig.4- Tmaximum Non -Repetitive Surge Current



## 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-750, Method 2026 guaranteed.
- Mold Compound : Epoxy resin family, flammability solid burning class: UL94V-0

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