



Continental Device India Pvt. Limited

An IATF 16949, ISO9001 and ISO 14001 Certified Company



## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 100 Volts

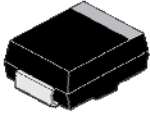
Forward Current -5.0 Amperes

**SK52B ~SK510B**

**DO-214AA(SMB)**

**SMD Package**

**RoHS compliant**



**DO-214AA (SMB)**

### FEATURES:

1. The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
2. For surface mounted applications
3. Metal silicon junction, majority carrier conduction
4. Low power loss, high efficiency
5. Built-in strain relief, ideal for automated placement
6. High forward surge current capability
7. High temperature soldering guaranteed 260° C/10 seconds at terminals
8. Glass passivated chip junction
9. This product is available in AECQ-101 compliant also.
10. Note: For AECQ -101 compliant product, please suffix-AQ in the part number while ordering

### ABSOLUTE MAXIMUM RATING (Ta = 25 °C Unless otherwise specified)

PARAMETER	SYMBOL	SK 52B	SK 53B	SK 54B	SK 55B	SK 56B	SK 58B	SK 510B	UNITS	
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	V	
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	V	
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	V	
Maximum average forward rectified current at $T_J = 75^\circ C$	$I_{(AV)}$	5.0							A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	100.0							A	
Maximum instantaneous forward voltage at 3.0A	$V_F$	0.55			0.7		0.85		V	
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25^\circ C$	0.5					0.1			$\mu A$
	$T_A = 100^\circ C$	20					10			
Typical junction capacitance (NOTE 1)	$C_J$	200							pF	
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	68.0							$^\circ C/W$	
Operating junction temperature range	$T_J$	-55 to +125					-55 to +150			$^\circ C$
Storage temperature range	$T_{STG}$	-55 to +150							$^\circ C$	

### Notes:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

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### TYPICAL CHARACTERISTIC CURVES

Fig 1: Forward Current Derating Curve

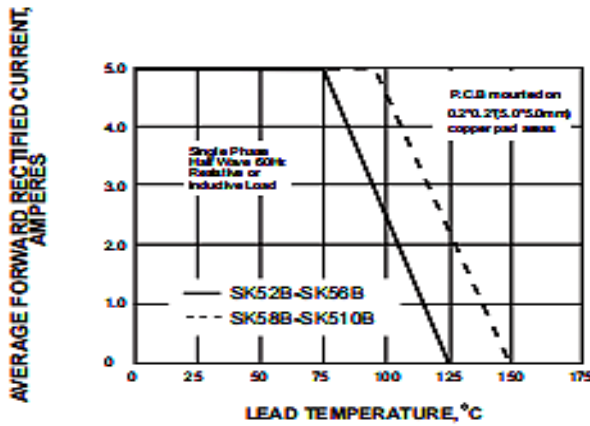


Fig 2: Typical Instantaneous Forward Characteristics

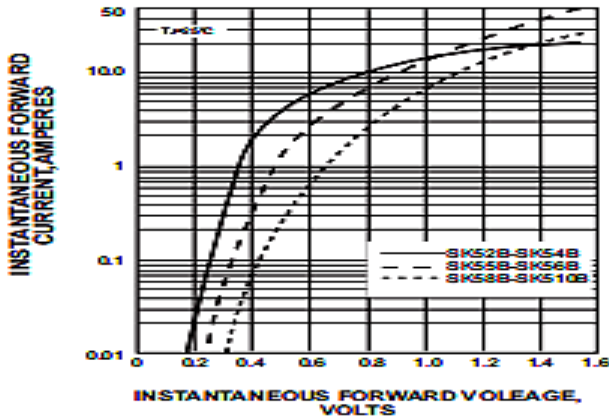


Fig 3: Typical Junction Characteristics

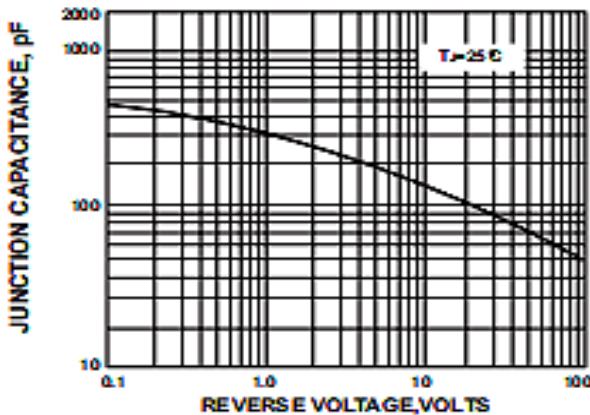


Fig 3: Maximum Non- Repetitive Peak Forward Surge Current

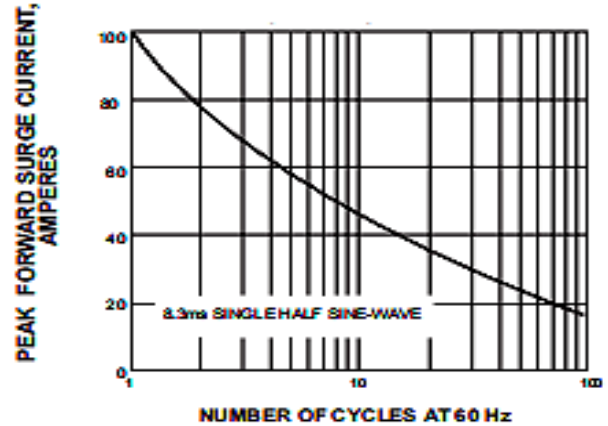


Fig 5: Typical Reverse Characteristics

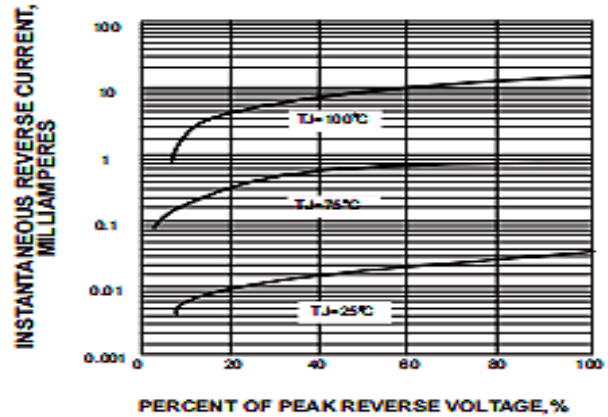
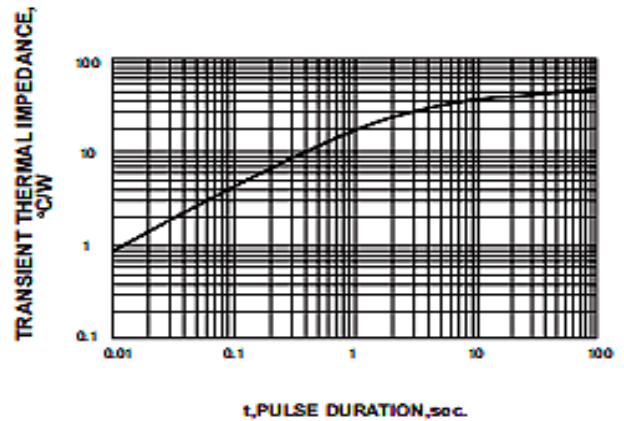


Fig 6: Typical Transient Thermal Impedance



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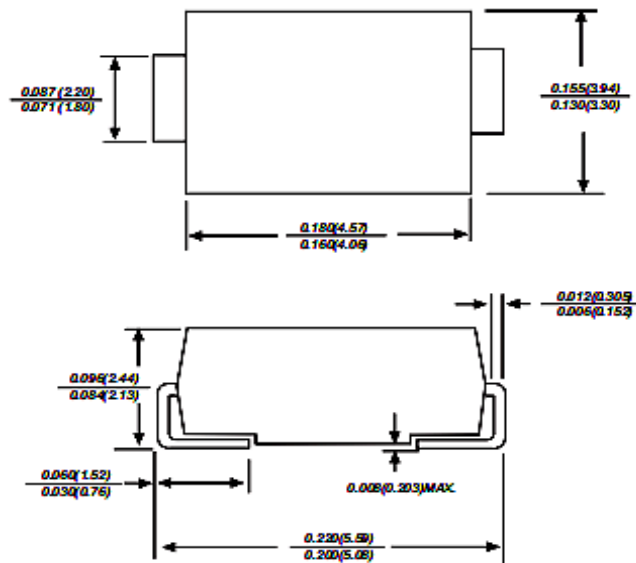
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## Package Details

DO-214AA SMD Package



Dimensions in inches and (millimeters)

### MECHANICAL DATA

**Case:** JEDEC DO-214AA molded plastic body over passivated chip

**Terminals:** Solder plated, solderable per MIL-STD-750,  
Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.003 ounce, 0.093 grams



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## Recommended Product Storage Environment for Discrete Semiconductor Devices

This storage environment assumes that the Diodes and transistors are packed properly inside the original packing supplied by CDIL.

- Temperature 5 °C to 30 °C
- Humidity between 40 to 70 %RH
- Air should be clean.
- Avoid harmful gas or dust.
- Avoid outdoor exposure or storage in areas subject to rain or water spraying .
- Avoid storage in areas subject to corrosive gas or dust. Product shall not be stored in areas exposed to direct sunlight.
- Avoid rapid change of temperature.
- Avoid condensation.
- Mechanical stress such as vibration and impact shall be avoided.
- The product shall not be placed directly on the floor.
- The product shall be stored on a plane area. They should not be turned upside down.  
They should not be placed against the wall.

### **Shelf Life of CDIL Products**

The shelf life of products is the period from product manufacture to shipment to customers. The product can be unconditionally shipped within this period. The period is defined as 2 years.

If products are stored longer than the shelf life of 2 years the products shall be subjected to quality check as per CDIL quality procedure.

The products are further warranted for another one year after the date of shipment subject to the above conditions in CDIL original packing.

### **Floor Life of CDIL Products and MSL Level**

When the products are opened from the original packing, the floor life will start.

For this, the following JEDEC table may be referred:

JEDEC MSL Level		
Level	Time	Condition
1	Unlimited	≤30 °C / 85% RH
2	1 Year	≤30 °C / 60% RH
2a	4 Weeks	≤30 °C / 60% RH
3	168 Hours	≤30 °C / 60% RH
4	72 Hours	≤30 °C / 60% RH
5	48 Hours	≤30 °C / 60% RH
5a	24 Hours	≤30 °C / 60% RH
6	Time on Label(TOL)	≤30 °C / 60% RH



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## Customer Notes

### Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

## Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s). CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



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**Continental Device India Pvt. Limited**

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone +91-11-2579 6150, 4141 1112 Fax +91-11-2579 5290, 4141 1119

email@cdil.com www.cdil.com

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