

Features

- Low forward voltage drop
- High junction temperature
- Moisture sensitivity: level 1, per J-STD-020
- Plastic package has underwriters laboratory flammability classification 94V-0
- Add suffix 'E' for halogen-free
- Halogen-free according to IEC 61249-2-21 definition
- AEC-Q101 qualified



Package: DO-214AA (SMB)

Applications

For use in low voltage, high frequency inverters, free wheeling and polarity protection applications.

Maximum Ratings (T_A = 25°C unless otherwise noted)

Parameter	Symbol	SK52B	SK53B	SK54B	SK55B	SK56B	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	20	30	40	50	60	V
Maximum RMS Voltage	V _{RMS}	14	21	28	35	42	V
Maximum DC Blocking Voltage	V _{DC}	20	30	40	50	60	V
Maximum Average Forward Rectified Current	I _{F(AV)}	5.0					A
Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load)	I _{FSM}	120					A
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150					°C

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Test Conditions	Symbol	SK52B	SK53B	SK54B	SK55B	SK56B	Unit
Maximum Instantaneous Forward Voltage	I _F =5A	V _F	0.55			0.67		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _A =25°C	I _R	0.20			0.15		mA
	T _A =125°C		15					
Typical Junction Capacitance	4.0 V, 1 MHz	C _J	96					pF

Thermal Characteristics

Parameter	Symbol	Value	Unit
Typical Thermal Resistance ⁽¹⁾	R _{θJA}	65	°C/W
	R _{θJC}	25	
	R _{θJL}	15	

Note1: Thermal resistance from junction to lead, mounted on PCB with 8.0×8.0mm copper pads.

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

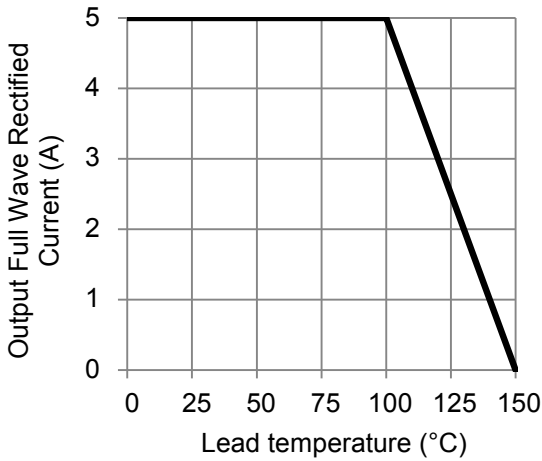


Figure 1. Forward Current Derating Curve

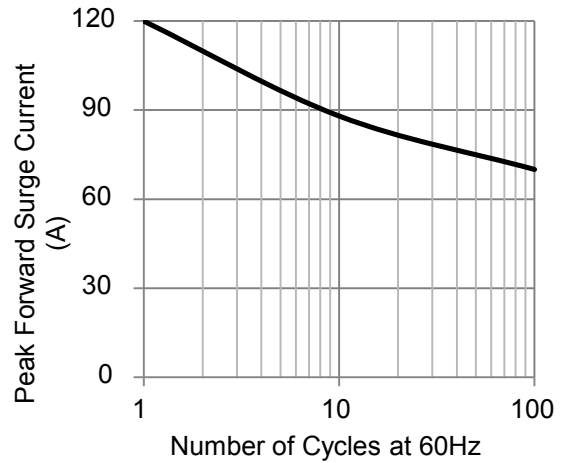


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

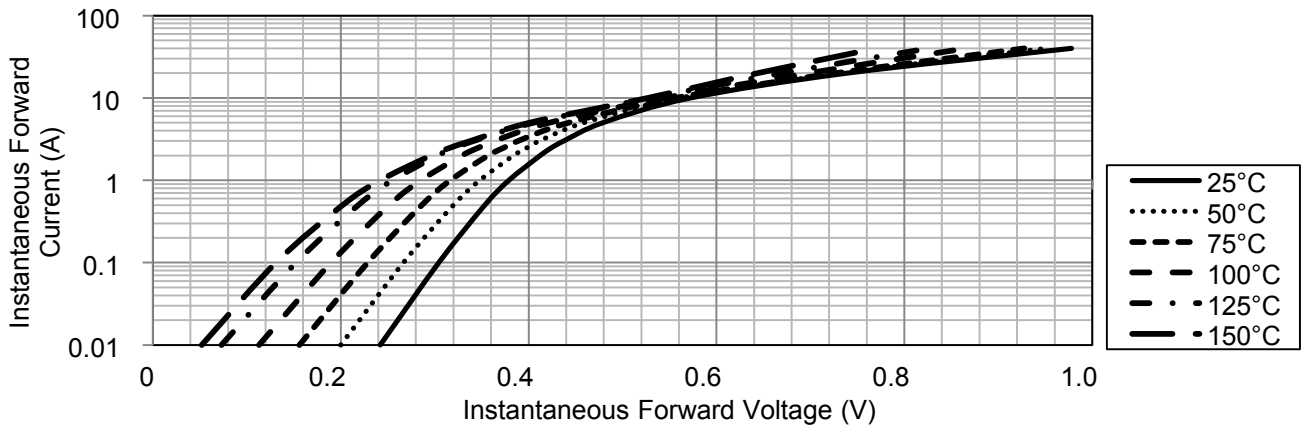


Figure 3. Typical Instantaneous Forward Characteristics (SK52B thru SK54B)

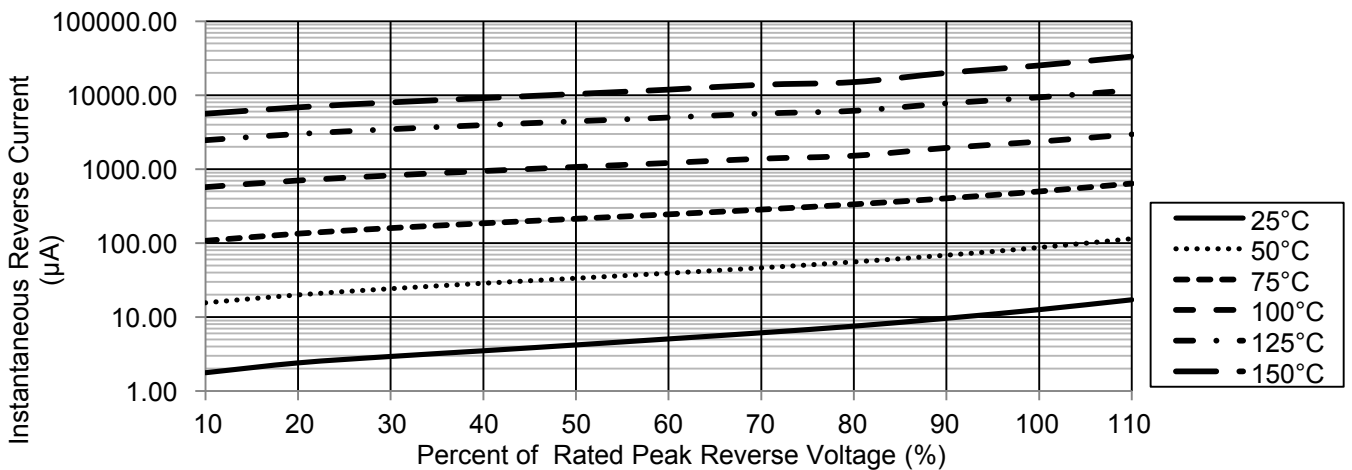


Figure 4. Typical Reverse Characteristics (SK52B thru SK54B)

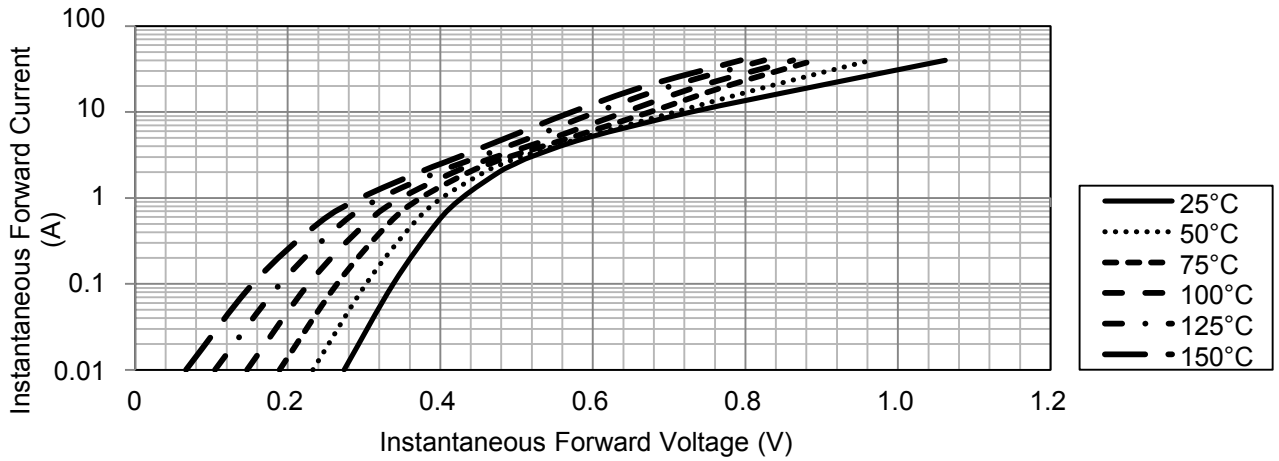


Figure 5. Typical Instantaneous Forward Characteristics
 (SK55B thru SK56B)

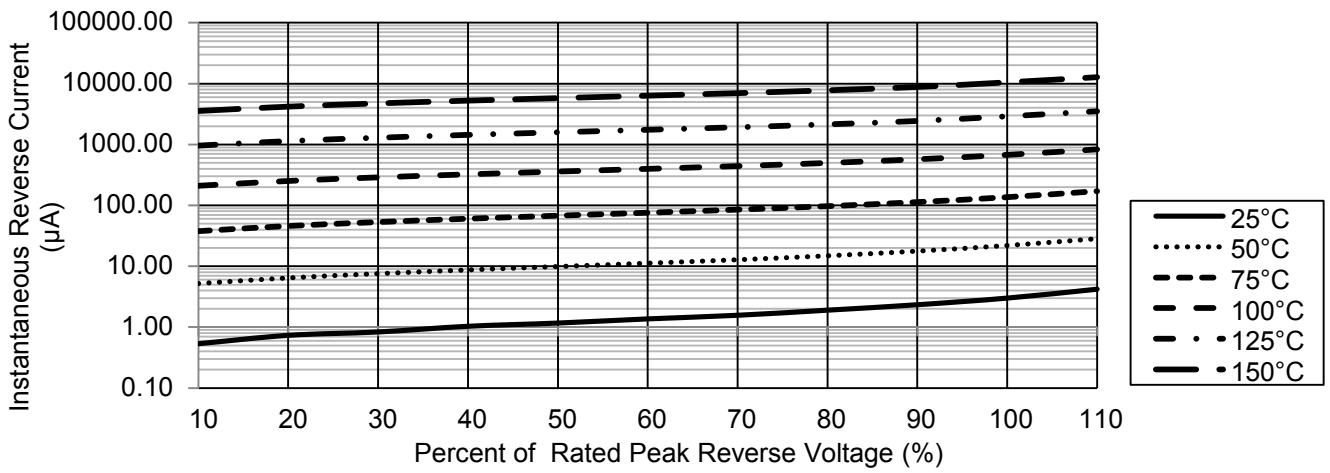
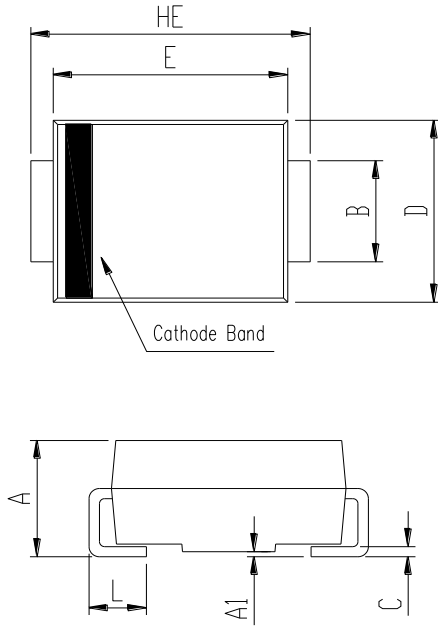


Figure 6. Typical Reverse Characteristics
 (SK55B thru SK56B)

SK52B thru SK56B

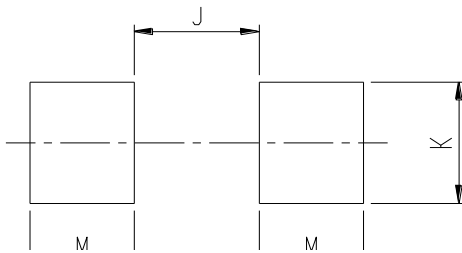
Surface Mount Schottky Rectifier
 Reverse Voltage 20-60V Forward Current 5A

Package Outline Dimensions (DO-214AA (SMB))



SMB (DO-214AA)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.99	2.61	0.078	0.103
A1	0.00	0.30	0.000	0.012
B	1.70	2.30	0.067	0.091
C	0.15	0.31	0.006	0.012
D	3.30	3.94	0.130	0.155
E	4.06	4.75	0.160	0.187
HE	4.70	5.70	0.185	0.224
L	0.76	1.52	0.030	0.060

Recommended Pad Layout



SMB Recommended Pad Layout (Reference Only)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	2.60	-	0.102
K	2.20	-	0.087	-
M	1.80	-	0.071	-