

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	SK5C0B	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	200	V
Maximum RMS Voltage	V _{RMS}	140	V
Maximum DC Blocking Voltage	V _{DC}	200	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	Value	Unit
Maximum Instantaneous Forward Voltage	I _F =5A	V _F	0.85	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _A =25°C	I _R	30	μA
	T _A =125°C		1000	
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)

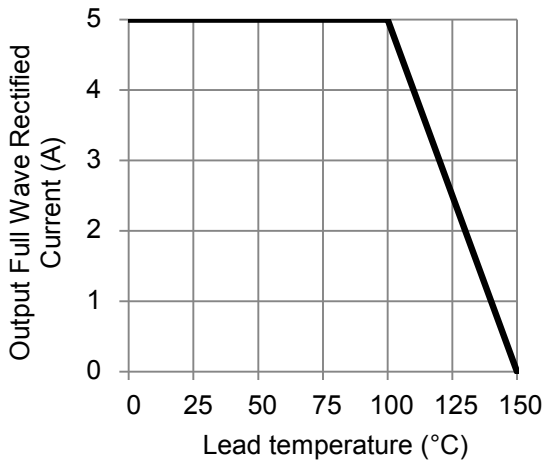


Figure 1. Forward Current Derating Curve

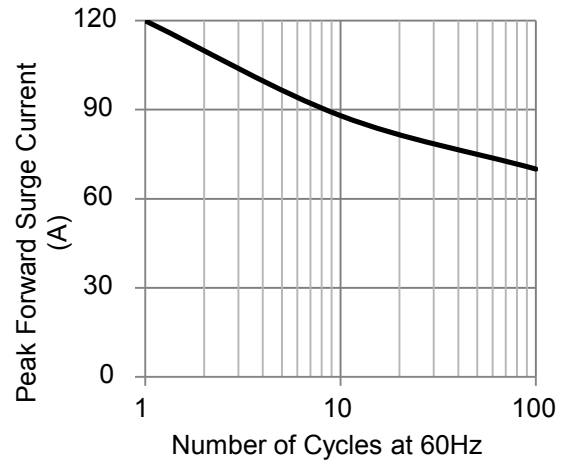


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

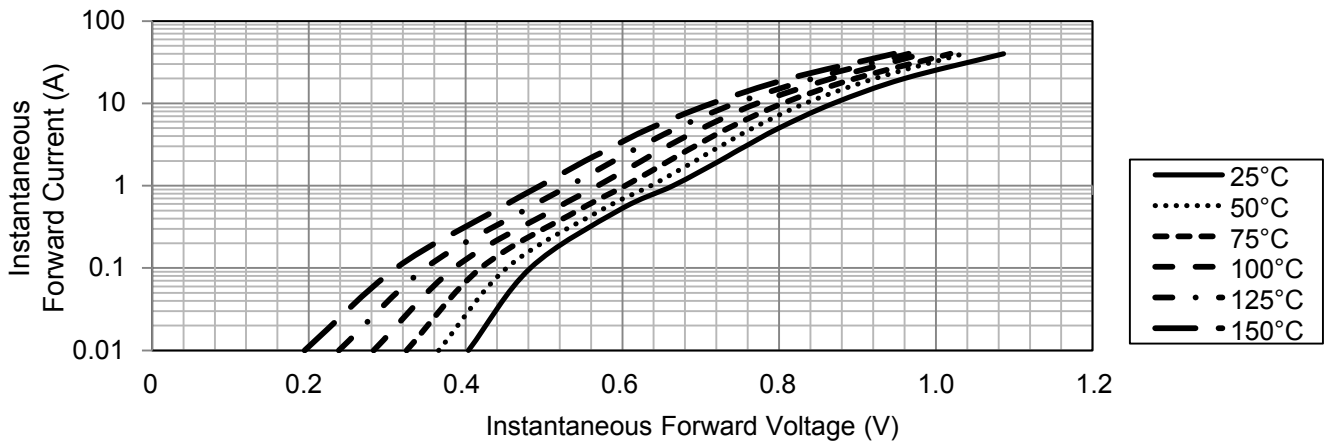


Figure 3. Typical Instantaneous Forward Characteristics

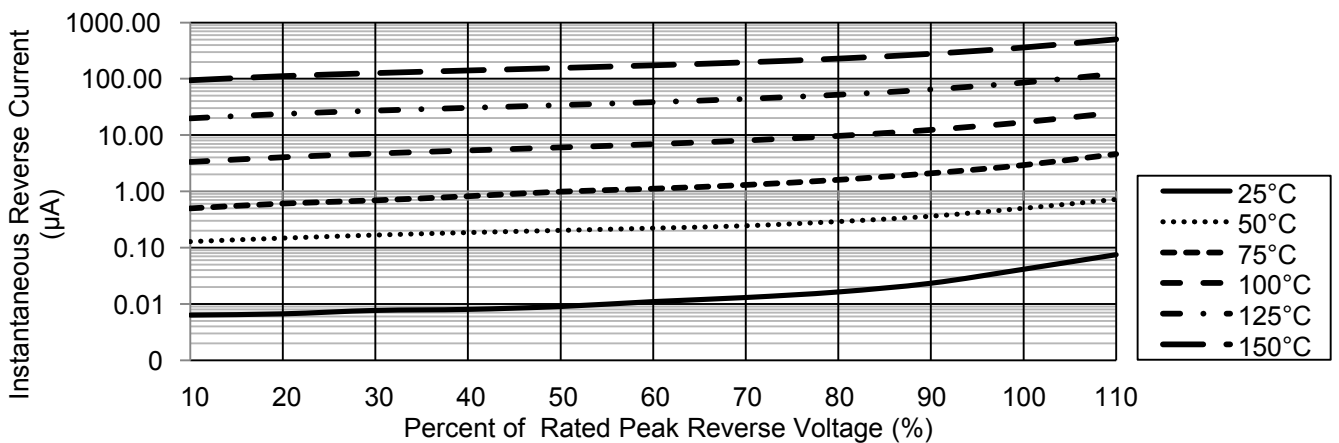
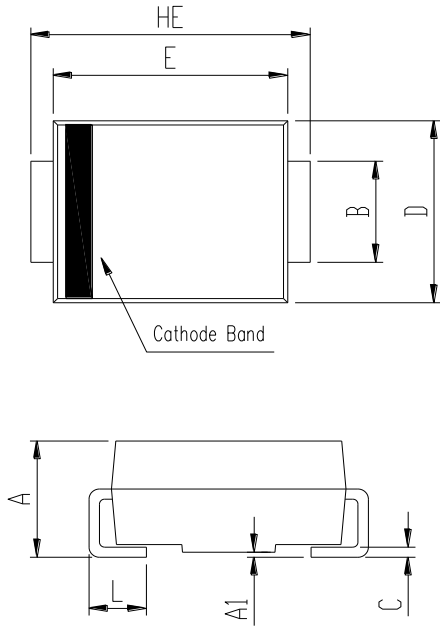


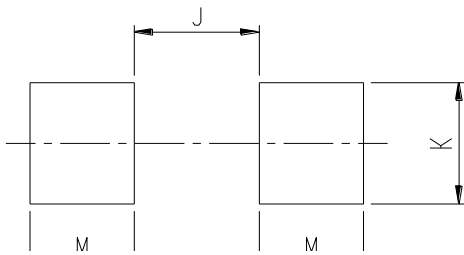
Figure 4. Typical Reverse Characteristics

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	-