

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
- Halogen-free according to IEC 61249-2-21 definition



Package: DO-214AB (SMC)

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	SK57	SK58	SK59	SK5B	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	70	80	90	100	V
Maximum RMS Voltage	V _{RMS}	42	56	63	70	V
Maximum DC Blocking Voltage	V _{DC}	70	80	90	100	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	0.79	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _A =25°C	I _R	30	μA
	T _A =125°C		2000	
Typical Junction Capacitance	4.0 V, 1 MHz	C _J	96	pF

Thermal Characteristics

Parameter	Symbol	Value	Unit
Typical Thermal Resistance ⁽¹⁾	R _{θJA}	62	°C/W
	R _{θJC}	22	
	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)

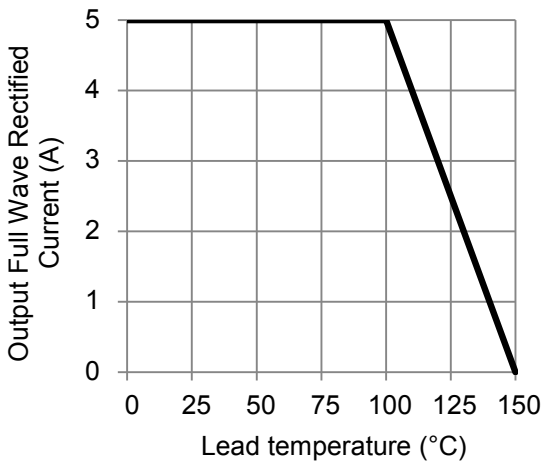


Figure 1. Forward Current Derating Curve

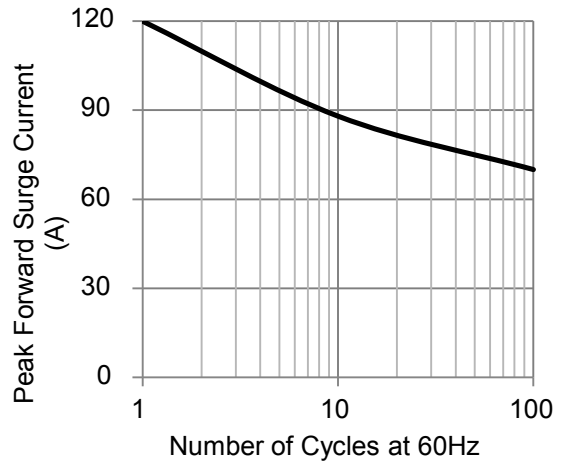


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

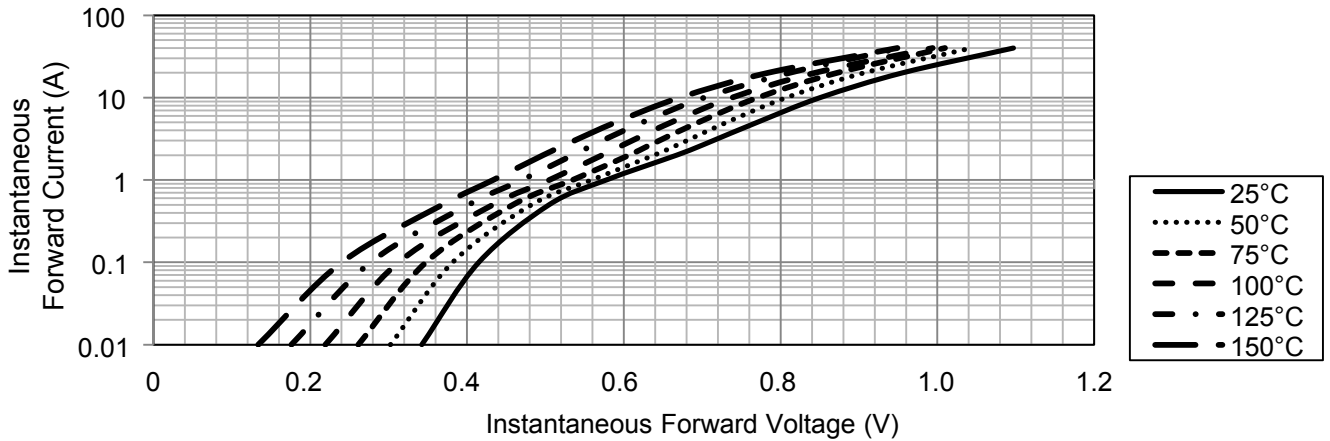


Figure 3. Typical Instantaneous Forward Characteristics

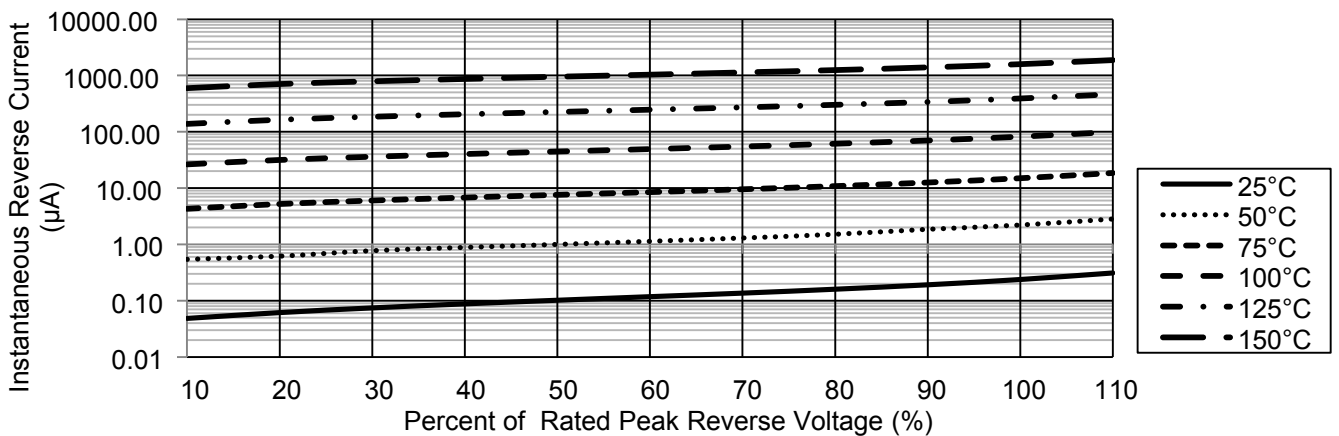
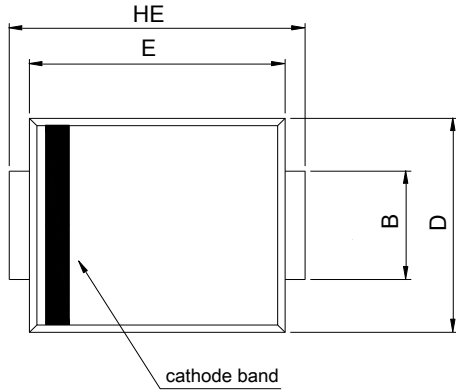
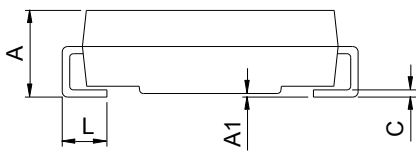


Figure 4. Typical Reverse Characteristics

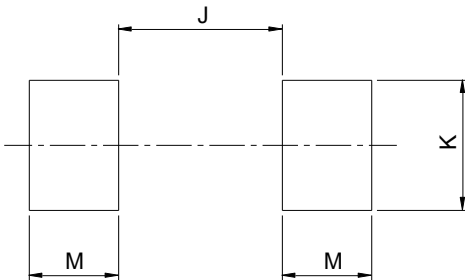
Package Outline Dimensions (SMC)



SMC (DO-214AB)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.00	0.20	0.000	0.008
B	2.90	3.20	0.114	0.126
C	0.15	0.31	0.006	0.012
D	5.58	6.22	0.220	0.245
E	6.60	7.15	0.260	0.281
HE	7.75	8.15	0.305	0.321
L	0.76	1.60	0.030	0.063



Recommended Pad Layout



SMC Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	4.60	-	0.181
K	3.20	-	0.126	-
M	2.00	-	0.079	-