



RoHS

This device employs the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes in surface mount applications.

Features

- Metal-Semiconductor junction with guarding ring
- For surface mounted applications
- Epitaxial construction
- Low power loss
- High efficiency
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application

Mechanical Data

- JEDEC DO-214AB(SMCJ) package
- Moisture sensitivity: Level 1 per J-STD-020A
- Polarity: color band denotes cathode
- Plastic Material - UL Flammability Classification 94V-0

Maximum Ratings and Electrical Characteristics @ TA = 25 °C unless otherwise specified												
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.												
Characteristic	Symbol	SD52C	SD53C	SD54C	SD55C	SD56C	SD57C	SD58C	SD59C	SD510C	Units	
Peak Repetitive Reverse Voltage	V _{RRM}	20	30	40	50	60	70	80	90	100	V	
RMS Reverse Voltage	V _{RMS}	14	21	28	35	42	49	56	63	70	V	
Maximum DC blocking voltage	V _{DC}	20	30	40	50	60	79	80	90	100	V	
Average Rectified Output Current @ TT = 100 °C	I _O	5.0									A	
Non-Repetitive Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	150						250			A	
Forward Voltage (Note 3)	V _{FM}	0.43			0.50			0.70			V	
Peak Reverse Current @TA = 25 °C at Rated DC Blocking Voltage @TA = 100 °C	I _{RM}						0.5 50					mA
Typical Capacitance (Note 2)	C _T						350			pF		
Typical Thermal Resistance, Junction to Ambient	R _{θJA}						90			°C/W		
Operating Temperature Range	T _j						-55 to +125			°C		
Storage Temperature Range	T _{STG}						-55 to +150			°C		

Notes: 1. Thermal resistance from junction to ambient, 0.276×0.276 " (7.0 × 7.0mm) copper pads to each terminal.

2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.

3. Short duration test pulse used to minimize self-heating effect.

Typical Characteristics

Figure 1: Typical Forward Characteristics

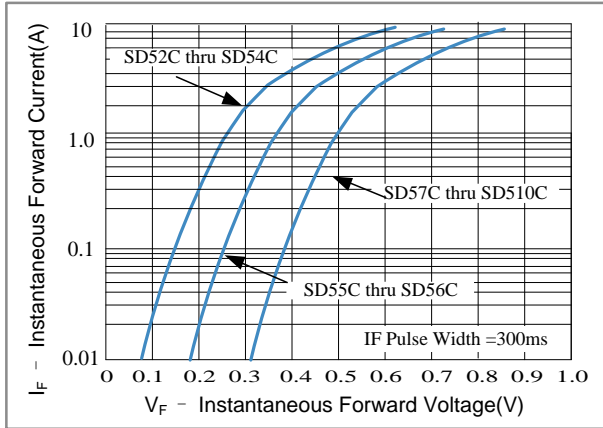


Figure 2: Forward Current Derating Curve

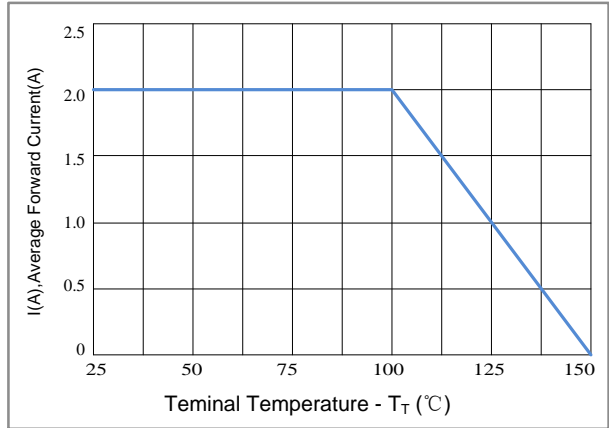


Figure 3: Typical Junction Capacitance

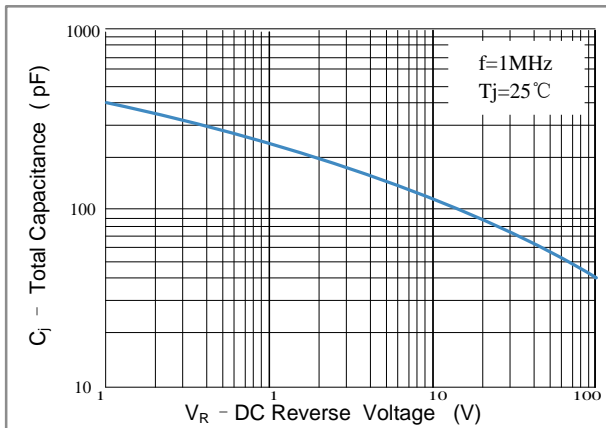


Figure 4: Max Non-Repetitive Peak Fwd Surge Current

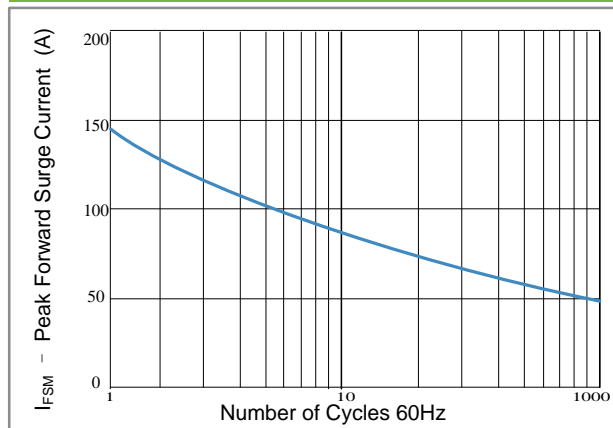
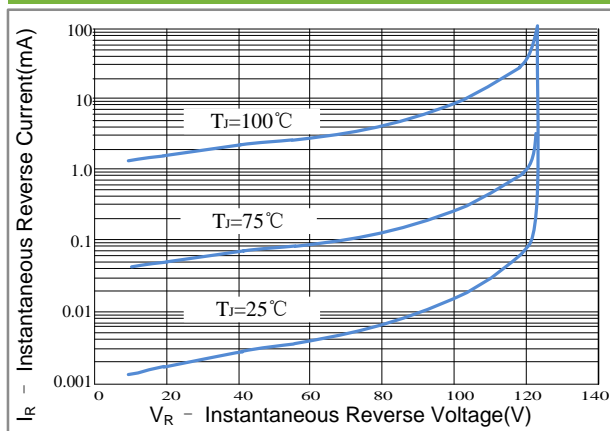
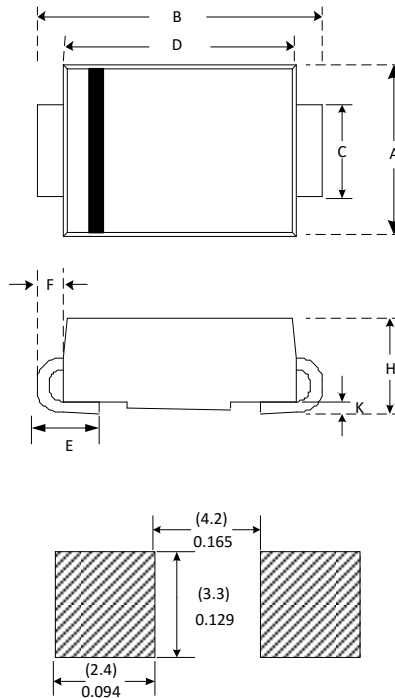


Figure 4: Typical Reverse Characteristics



Outline Drawing – SMCJ(DO-214AB)



Dimension	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.220	0.245	5.590	6.220
B	0.305	0.320	7.750	8.130
C	0.114	0.126	2.900	3.200
D	0.260	0.280	6.600	7.110
E	0.030	0.060	0.760	1.520
F	0.006	0.012	0.152	0.305
H	0.079	0.103	2.060	2.620

Packing Information

Package Type	Packing Option	Packing Quantity	Industry Standard
DO-214AB	Tape&Reel-12mm/13"tape	3000 PCS	EIA STD-481

Marking information

Order code	SD52C	SD53C	SD54C	SD55C	SD56C	SD57C	SD58C	SD59C	SD510C
Marking	SK52	SK53	SK54	SK55	SK56	SK57	SK58	SK59	SK510