

Standard Diode



RoHS
Compliant



Features:

- For surface mounted application
- Glass passivated junction chip
- Low forward voltage drop
- High current capability
- Easy pick and place
- High surge current capability
- Plastic material
- High temperature soldering : 260°C/10 seconds at terminals

Specifications:

Mechanical Data:

Cases	: Moulded plastic
Terminals	: Pure tin plated, lead free
Polarity	: Indicated by cathode band
Packaging	: 16mm tape per EIA STD RS-481
Weight	: 0.21g

Maximum Ratings and Electrical Characteristics:

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Parameters	Symbol	S3B	S3K	S3M	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	100	800	1,000	V
Maximum RMS Voltage	V_{RMS}	70	560	700	
Maximum DC Blocking Voltage	V_{DC}	100	800	1,000	
Maximum Average Forward Rectified Current at $T_L = 105^\circ\text{C}$	$I_{(AV)}$	3			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	100			
Maximum Instantaneous Forward Voltage at 3A	V_F	1.15			V
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	I_R	10 250			μA μA

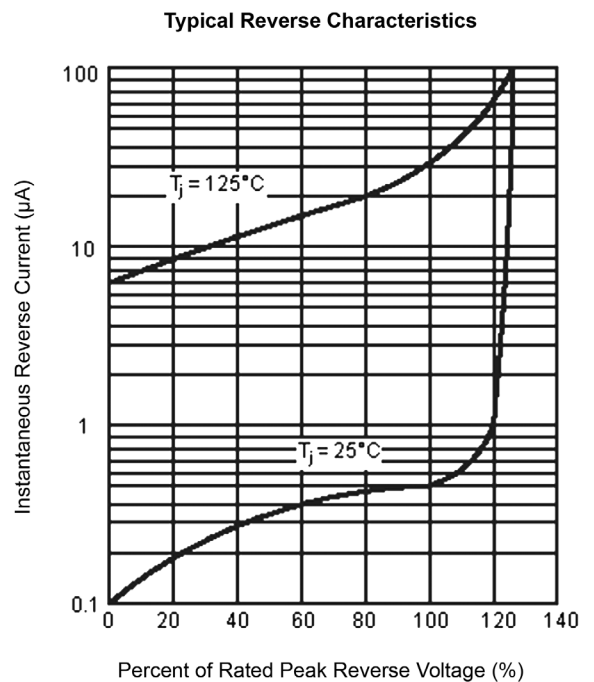
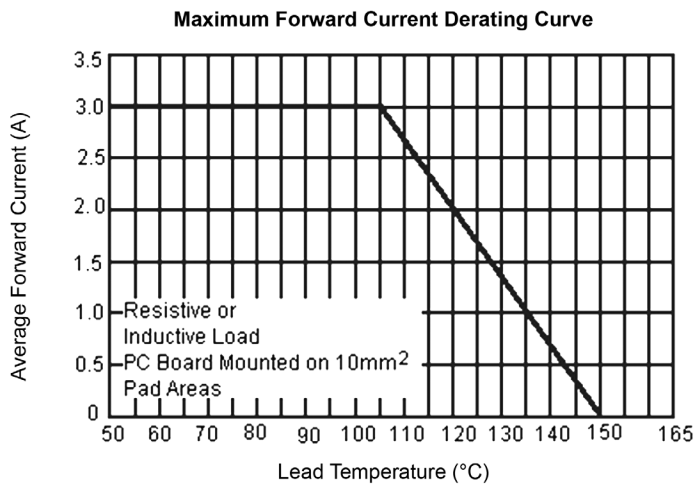


Parameters	Symbol	S3B	S3K	S3M	Units
Maximum Reverse Recovery Time (Note 1)	T_{rr}		1.5		μS
Typical Junction Capacitance (Note 2)	C_j		60		pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$		13		$^{\circ}\text{C}/\text{W}$
	$R_{\theta JA}$		47		
Operating Temperature Range	T_J	-55 to +150			$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}				

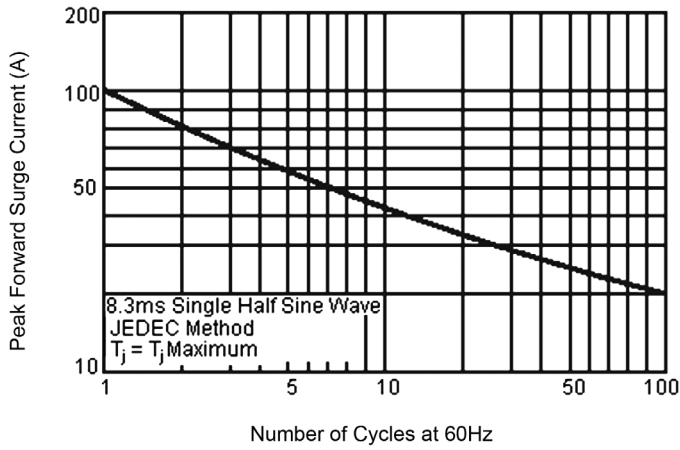
Notes:

- Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$.
- Measured at 1MHz and Applied $V_R = 4\text{V}$.
- Measured on PC Board with 0.6" x 0.6" (16mm x 16mm) Copper Pad Areas.

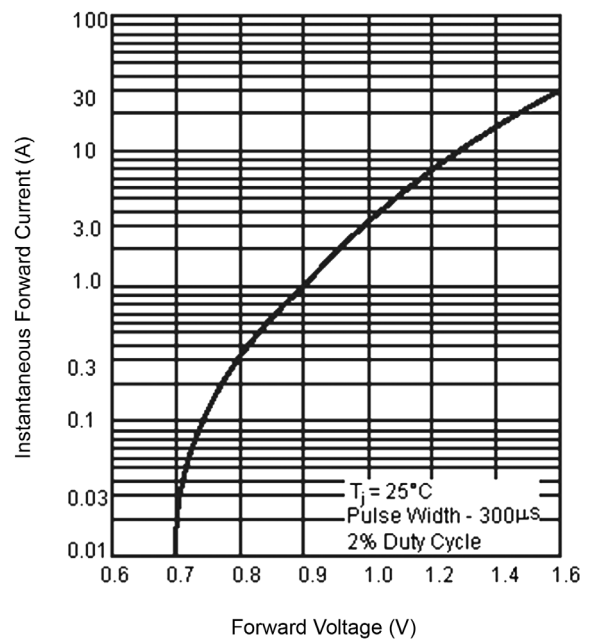
Ratings and Characteristic Curves



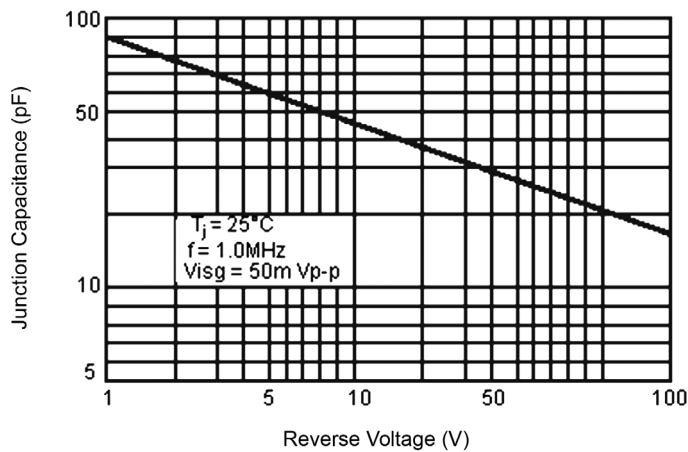
Maximum Non-Repetitive Forward Surge Current



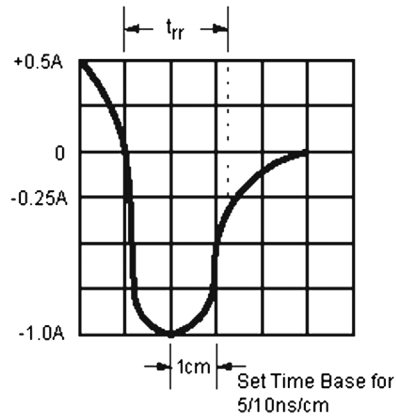
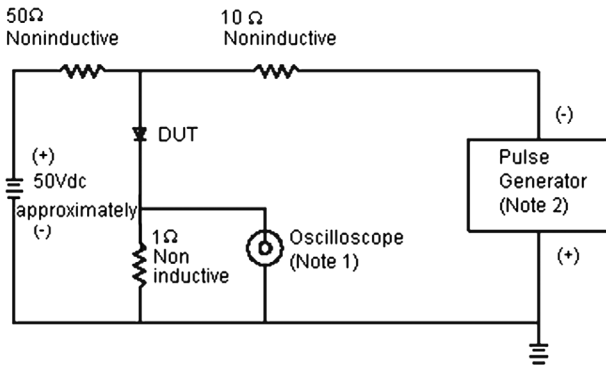
Typical Forward Characteristics



Typical Junction Capacitance



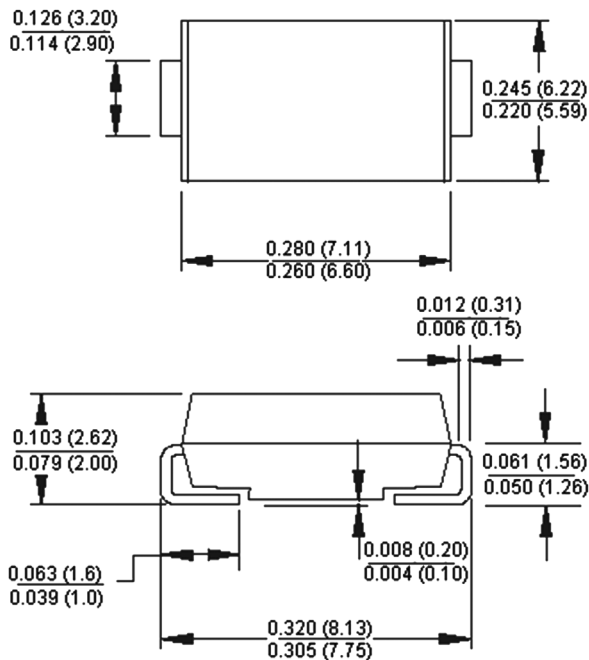
Reverse Recovery Time Characteristic and Test Circuit Diagram



Note:

1. Rise Time = 7ns Maximum Input Impedance = 1MΩ 22pf
2. Rise Time = 10ns Maximum Source Impedance = 50Ω

SMC/DO-214AB



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Standard, 3A, 100V	S3B
Diode, Standard, 3A, 800V	S3K
Diode, Standard, 3A, 1,000V	S3M

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