

Standard Recovery Power Diode



Features:

- For surface mounted application
- Glass passivated junction chip
- Low forward voltage drop
- Easy pick and place
- High surge current capability
- High temperature soldering : 250°C/10 seconds at terminals

Specifications:

Diode Type	: Standard Recovery
Diode Configuration	: Single
Forward Current $I_f(AV)$: 3A
Forward Voltage V_F Max.	: 1.15V
Reverse Recovery Time t_{rr} Max	: 2.5 μ s
Forward Surge Current I_{FSM} Max	: 100A
Diode Case Style	: DO-214AB
No. of Pins	: 2
Diode Polarity	: Cathode
External Depth	: 6.22mm
External Length / Height	: 2.62mm
External Width	: 7.11mm
Operating Temperature	: 150°C
Termination Type	: SMD

Mechanical Data:

Cases	: Moulded plastic
Terminals	: Solder plated
Polarity	: Indicated by cathode band

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%.

Type Number	S3A	S3D	S3G	S3J	Unit
Maximum recurrent peak reverse voltage	50	200	400	600	V
Maximum RMS voltage	35	140	280	420	
Maximum DC blocking voltage	50	200	400	600	

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Type Number	S3A	S3D	S3G	S3J	Unit
Maximum average forward rectified current at $T_L = 75^\circ\text{C}$	3				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	100				
Maximum Instantaneous forward voltage at 3A	1.15				V
Maximum DC reverse current at $T_A = 25^\circ\text{C}$ at rated DC blocking voltage at $T_A = 125^\circ\text{C}$	10 250				μA
Maximum reverse recovery time (Note 1)	2.5				μS
Typical junction capacitance (Note 2)	60				pF
Operating temperature range T_j	-55 to +150				$^\circ\text{C}$
Storage temperature range T_{STG}					

Notes:

1. Reverse recovery test conditions: $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$
2. Measured at 1MHz and applied $V_R = 4\text{V}$

Ratings and Characteristic Curves:

Figure 1 Maximum Forward Current Derating Curve

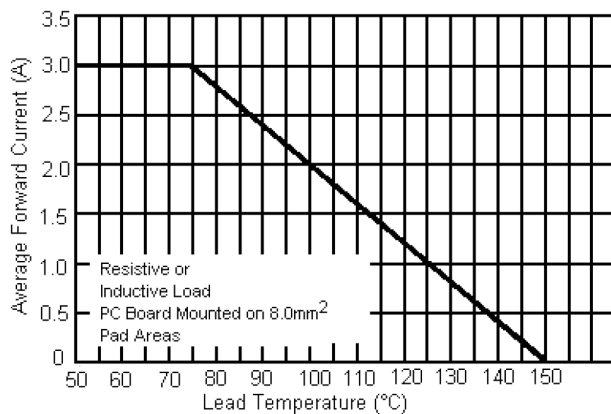
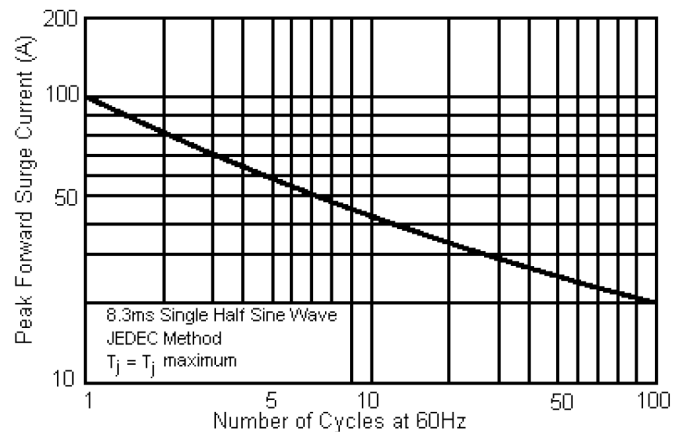


Figure 2 Maximum Non-Repetitive Forward Surge Current



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Figure 3 Typical Forward Characteristics

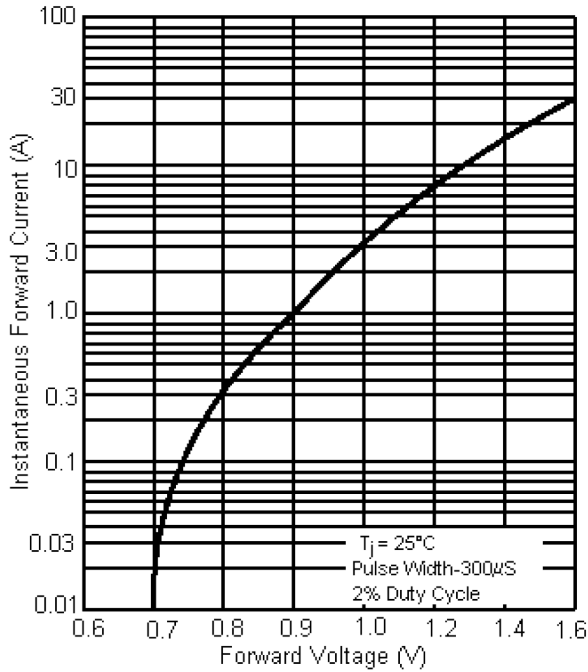


Figure 4 Typical Reverse Characteristics

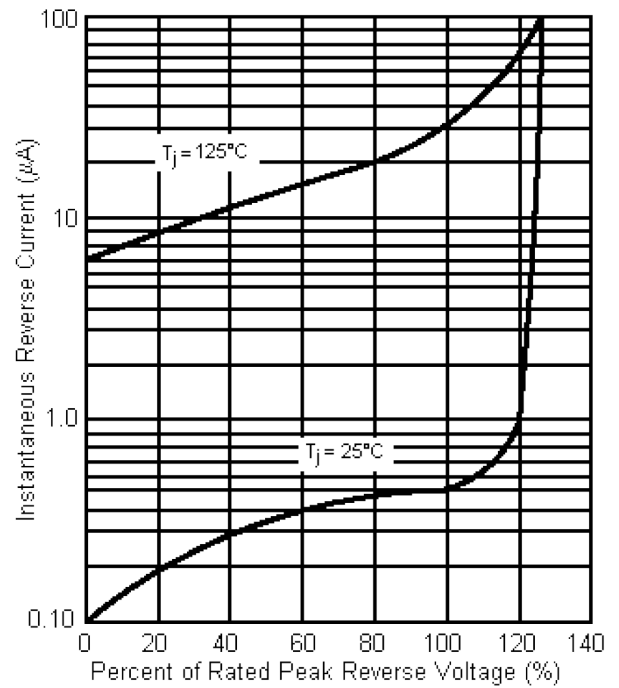
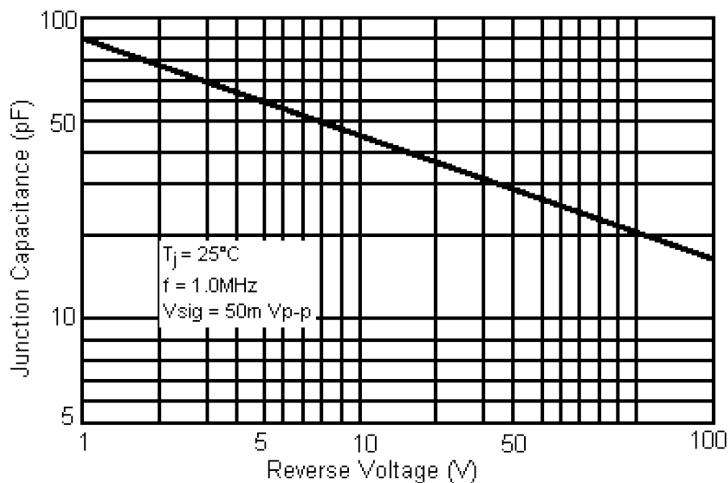


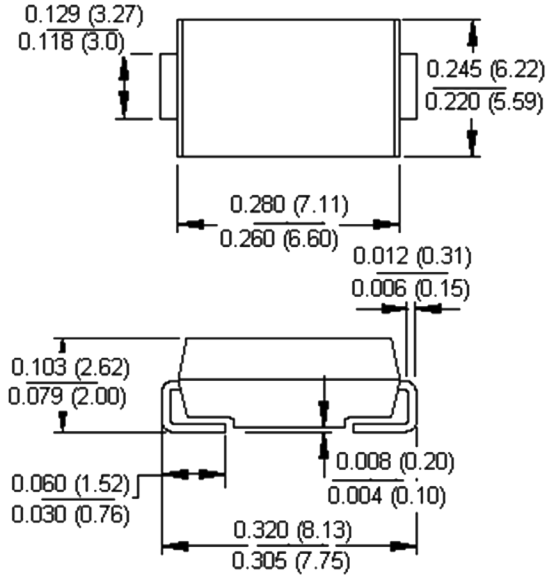
Figure 5 Typical Junction Capacitance



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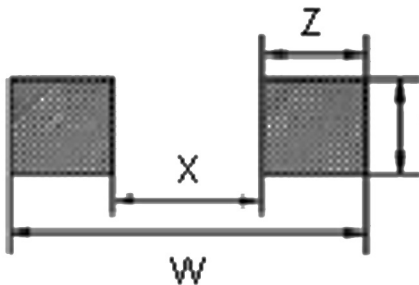


SMC/DO-214AB



Dimensions : Inches (Millimetres)

Foot Print



Dimensions:

Length	Depth	Width	X	Y	Z
8.13	2.62	6.22	5.08	3.2	1.52

Dimensions : Millimetres

Part Number Table

Description	V _{RRM} maximum (V)	I _{AV} (A)	I _{FSM} (A)	V _F (V) at I _F = 1A at 25°C	Package	Part Number
Diode, Standard, 3A, 50V, SMD	50	3	100	1.15	DO-214AB (SMC)	S3A
Diode, Standard, 3A, 200V, SMD	200					S3D
Diode, Standard, 3A, 400V, SMD	400					S3G
Diode, Standard, 3A, 600V, SMD	600					S3J

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