

Surface Mount Rectifier Diode

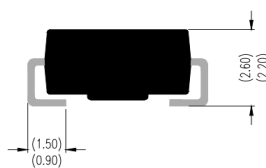
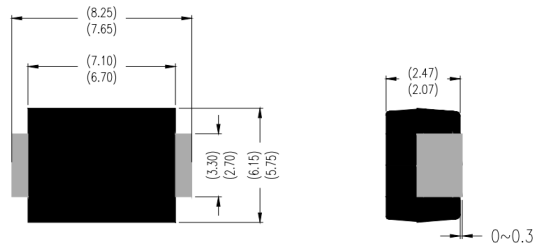
Features

- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- AEC-Q101 qualified
- High current capability
- High surge current capability

Mechanical Data

- Case: DO-214AB (SMC)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Halogen-free according to IEC 61249-2-21
- Polarity: As marked

DO-214AB (SMC)



Unit : inch(mm)

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	S3ACQ	S3BCQ	S3DCQ	S3GCQ	S3JCQ	S3KCQ	S3MCQ	S3NCQ	Unit
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	1200	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	840	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	1200	V
Forward current	$I_{F(AV)}$	3								A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	100								A
Junction temperature	T_J	- 55 to +150								$^{\circ}\text{C}$
Storage temperature	T_{STG}	- 55 to +150								$^{\circ}\text{C}$

Thermal Performance

Parameter	Symbol	Typ	Unit
Junction-to-lead thermal resistance per diode	$R_{\theta JL}$	13	$^{\circ}\text{C/W}$
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	47	$^{\circ}\text{C/W}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Test Conditions	Symbol	Typ	Max	Unit
Forward voltage per diode ⁽¹⁾	$I_F = 3\text{A}$, $T_J = 25^\circ\text{C}$	V_F	-	1.15	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	10	μA
	$T_J = 125^\circ\text{C}$		-	250	μA
Junction capacitance	1 MHz, $V_R=4.0\text{V}$	C_J	60	-	pF
Reverse recovery time	$I_F=0.5\text{A}$, $I_R=1.0\text{A}$ $I_{RR}=0.25\text{A}$	t_{rr}	1500	-	ns

Notes:

1. Pulse test with $PW=0.3\text{ ms}$
2. Pulse test with $PW=30\text{ ms}$

Characteristics Curves

Fig.1 Forward Current Derating Curve

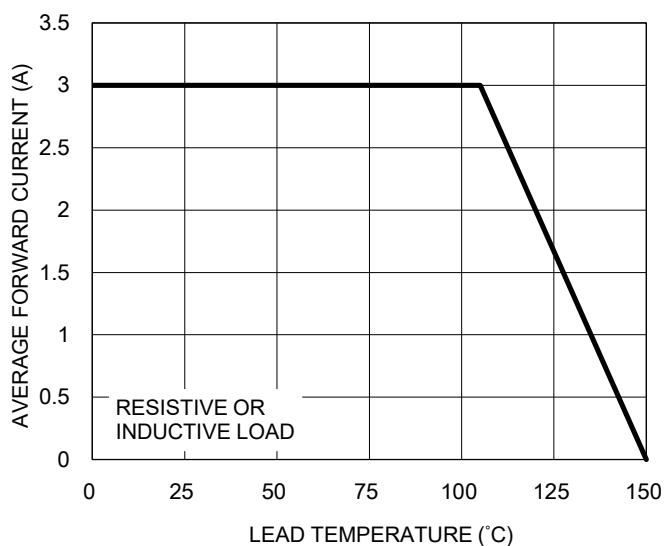


Fig.2 Typical Junction Capacitance

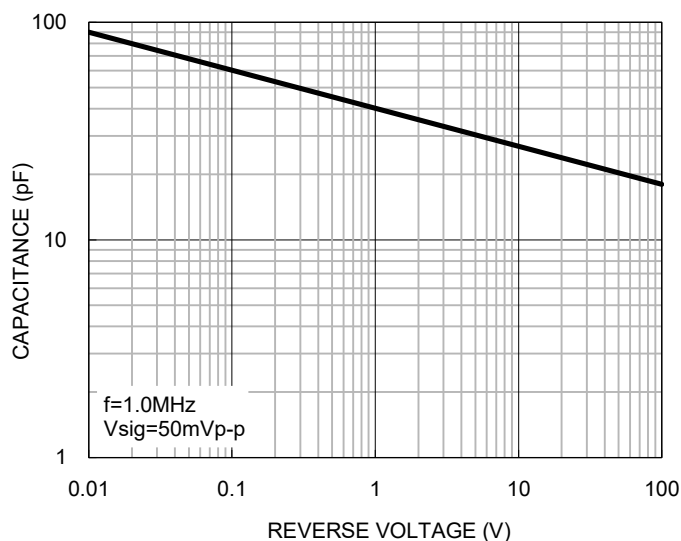


Fig.3 Typical Reverse Characteristics

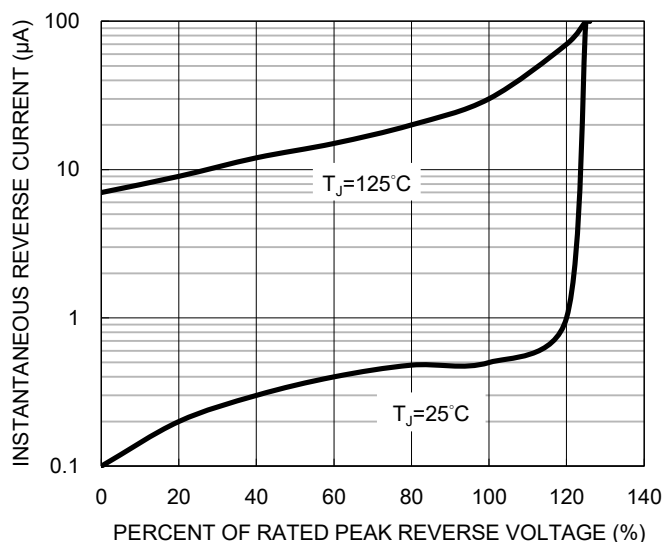


Fig.4 Typical Forward Characteristics

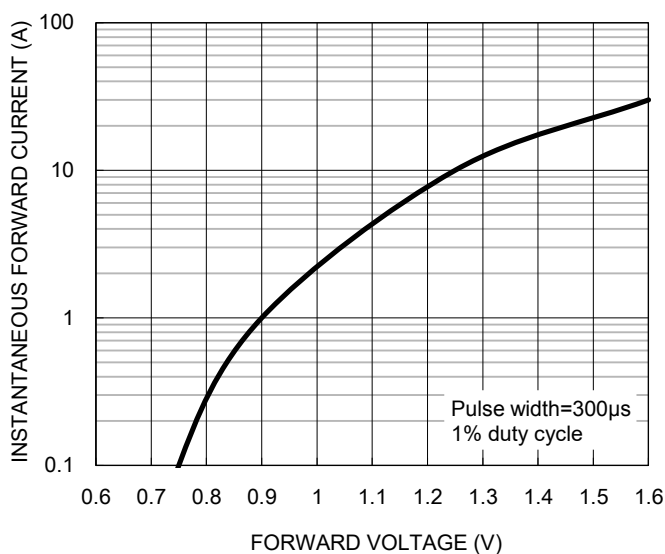


Fig.5 Maximum Non-repetitive Forward Surge Current

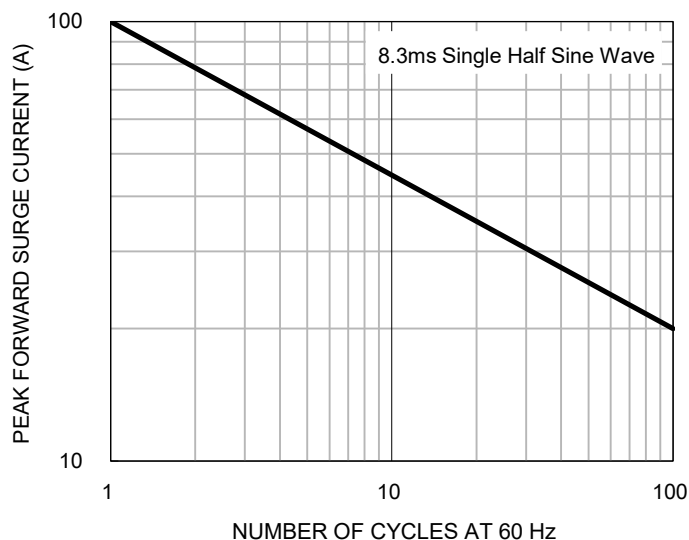


Fig.6 Reverse Recovery Time Characteristic And Test Circuit Diagram

