

Surface Mount Rectifier Diode

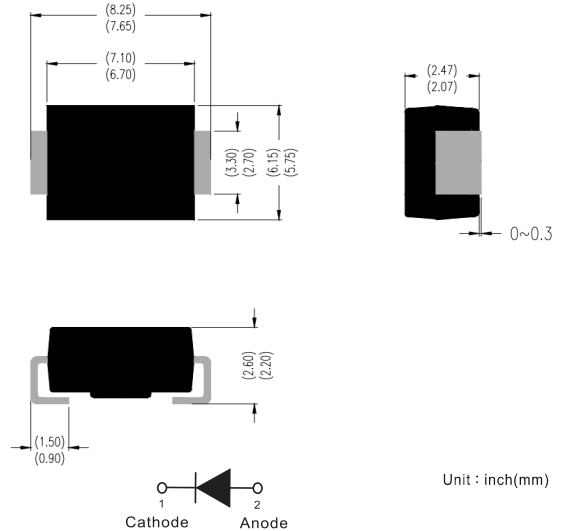
Features

- 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)



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

Parameter	Symbol	Unit	S5ACQ	S5BCQ	S5DCQ	S5GCQ	S5JCQ	S5KCQ	S5MCQ
Maximum Repetitive peak reverse voltage	V_{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	280	420	560	700
Maximum DC Blocking Voltage	V_{DC}	V	50	100	200	400	600	800	1000
Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1)	I_O	A	5.0						
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_j=25^\circ\text{C}$	I_{FSM}	A	150						
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, $T_j=25^\circ\text{C}$			300						
Current squared time @1ms≤t≤8.3ms $T_j=25^\circ\text{C}$	I^2t	A ² s	94						
Storage Temperature	T_{stg}	°C	-55 ~ +150						
Junction Temperature	T_j	°C	-55 ~ +150						

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

Parameter	Symbol	Unit	Test Conditions	S5ACQ	S5BCQ	S5DCQ	S5GCQ	S5JCQ	S5KCQ	S5MCQ
Maximum instantaneous forward voltage	V _F	V	I _{FM} =5.0A	1.1						
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _J =25°C	5						
			T _J =125°C	100						
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	33						

Thermal Performance

Parameter	Symbol	Unit	S5ACQ	S5BCQ	S5DCQ	S5GCQ	S5JCQ	S5KCQ	S5MCQ
Typical Thermal resistance	R _{θJ-A}	°C/W	48						
	R _{θJ-L}		15						
	R _{θJ-C}		12						

Note(1)

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas



Characteristics Curves

FIG.1: Io-TL Curve

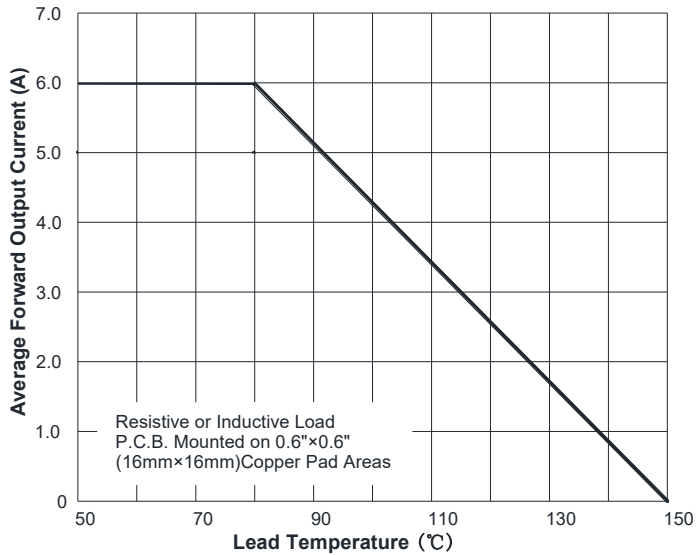


FIG.2: Forward Surge Current Capability

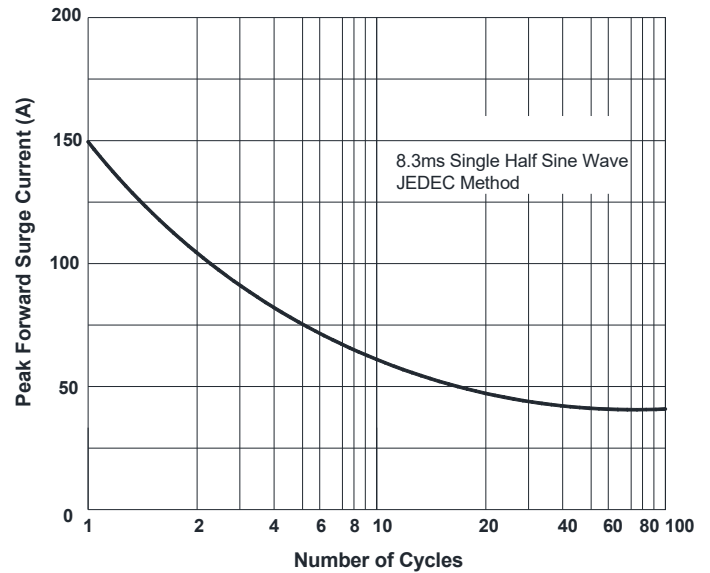


FIG.3: Typical Forward Voltage

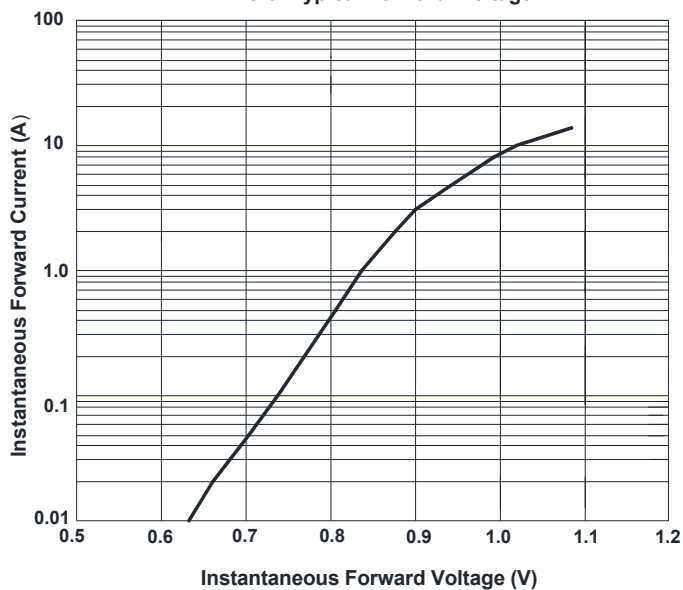


FIG.4: Typical Reverse Characteristics

