

Surface Mount Rectifier Diode

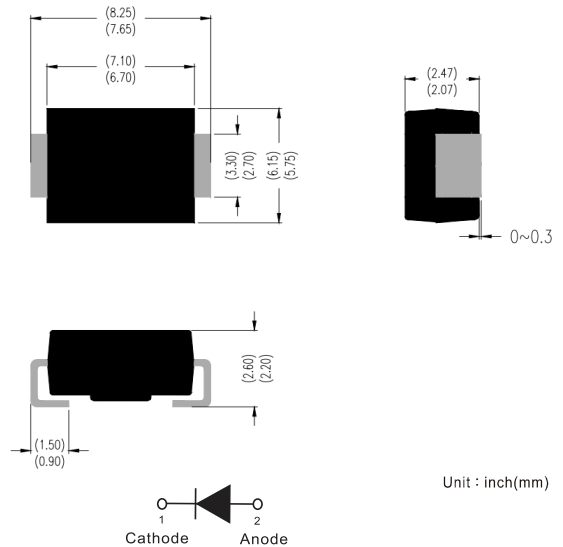
Features

- 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	S6ACQ	S6BCQ	S6DCQ	S6GCQ	S6JCQ	S6KCQ	S6MCQ
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	6.0						
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	S6ACQ	S6BCQ	S6DCQ	S6GCQ	S6JCQ	S6KCQ	S6MCQ
Maximum instantaneous forward voltage	V_F	V	$I_{FM}=5.0\text{A}$	1.1						
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	$T_J=25^{\circ}\text{C}$	5						
			$T_J=125^{\circ}\text{C}$	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	S6ACQ	S6BCQ	S6DCQ	S6GCQ	S6JCQ	S6KCQ	S6MCQ
Typical Thermal resistance	$R_{\theta J-A}$	$^{\circ}\text{C/W}$	48						
	$R_{\theta J-L}$		15						
	$R_{\theta J-C}$		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

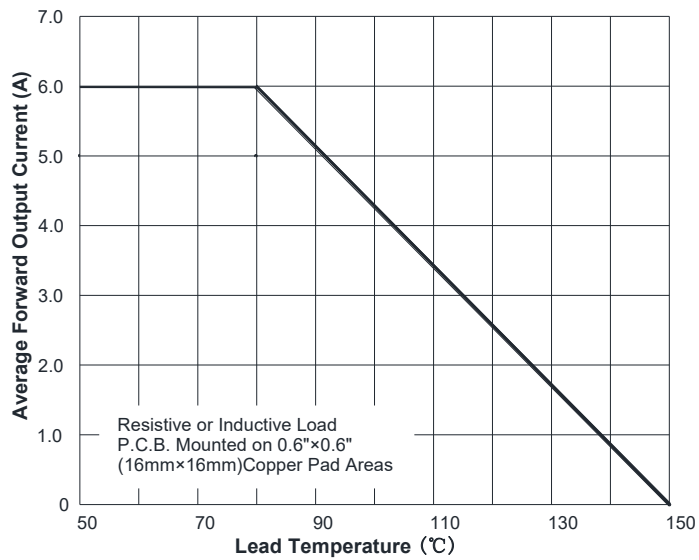


FIG.2: Forward Surge Current Capability

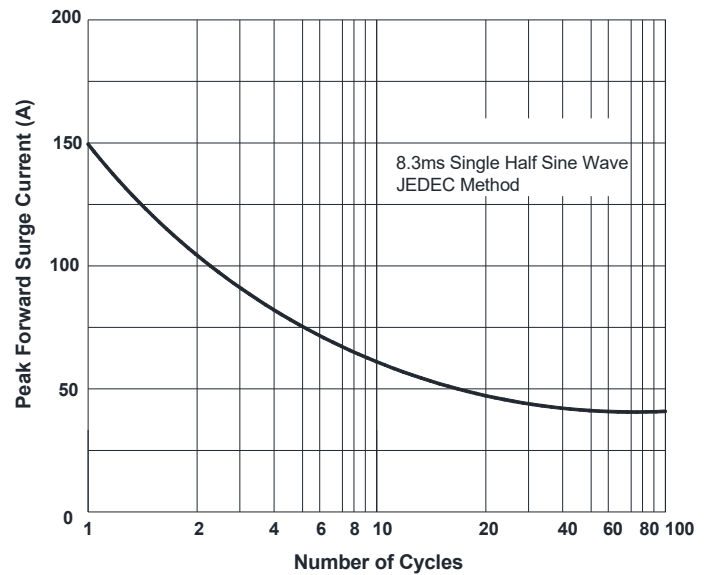


FIG.3: Typical Forward Voltage

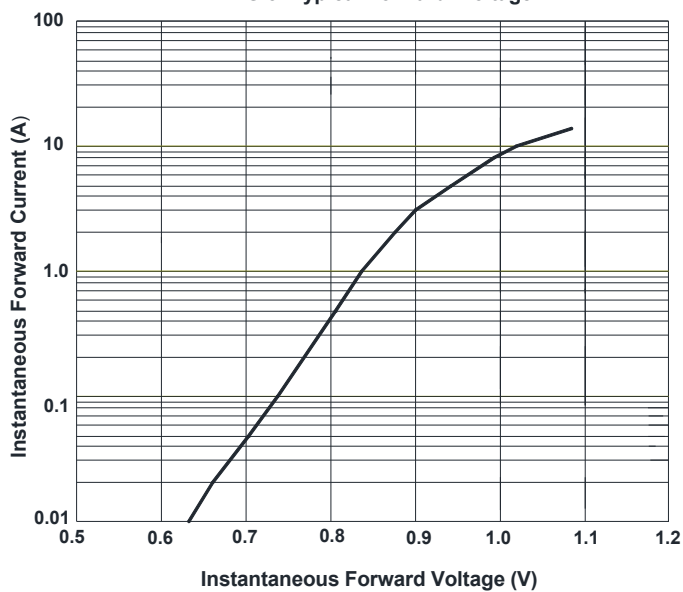


FIG.4: Typical Reverse Characteristics

