

Surface Mount Rectifier Diode

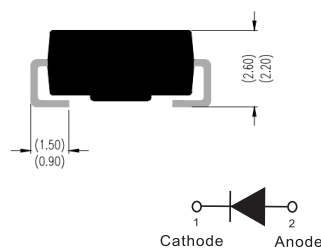
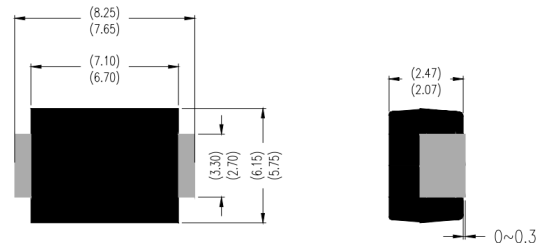
Features

- 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	Unit	S10ACQ	S10BCQ	S10DCQ	S10GCQ	S10JCQ	S10KCQ	S10MCQ
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	10						
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_j=25^\circ\text{C}$	I_{FSM}	A	200						
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, $T_j=25^\circ\text{C}$			400						
Current squared time @1ms≤t≤8.3ms $T_j=25^\circ\text{C}$, Rating of per diode	I^2t	A^2s	166						
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	C_j	pF	55						
Storage Temperature	T_{stg}	$^\circ\text{C}$	-55 ~ +150						
Junction Temperature	T_j	$^\circ\text{C}$	-55 ~ +150						



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

Parameter	Symbol	Unit	Test Conditions	S10ACQ	S10BCQ	S10DCQ	S10GCQ	S10JCQ	S10KCQ	S10MCQ
Maximum instantaneous forward voltage drop per diode	V_F	V	$I_{FM}=10\text{A}$	1.1						
Maximum DC reverse current at rated DC blocking voltage per diode	I_R	μA	$T_j=25^{\circ}\text{C}$	5						
			$T_j=125^{\circ}\text{C}$	100						

Thermal Performance

Parameter	Symbol	Unit	S10ACQ	S10BCQ	S10DCQ	S10GCQ	S10JCQ	S10KCQ	S10MCQ
Typical Thermal resistance	$R_{\theta J-A(1)}$	$^{\circ}\text{C/W}$	50						
	$R_{\theta J-L(1)}$		10						
	$R_{\theta J-C(1)}$		8						

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: I_o -TL Curve

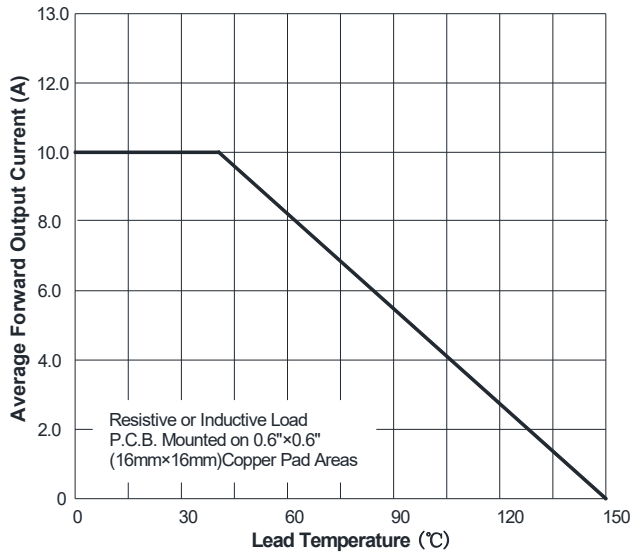


FIG.2: Forward Surge Current Capability

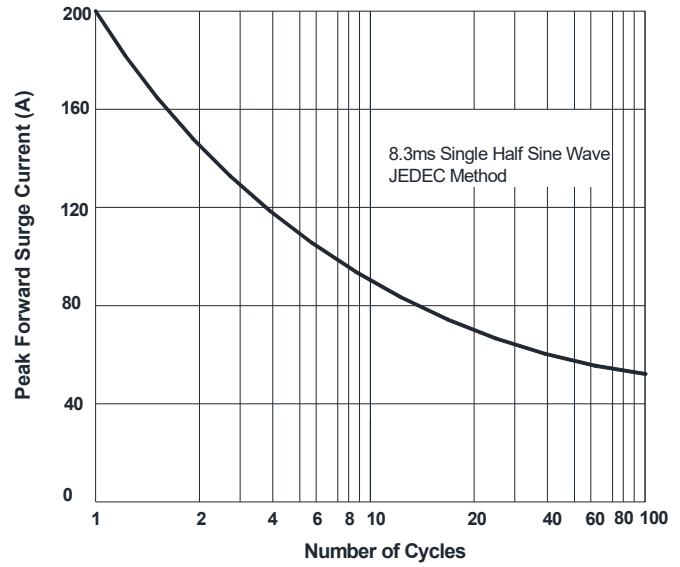


FIG.3: Typical Forward Voltage

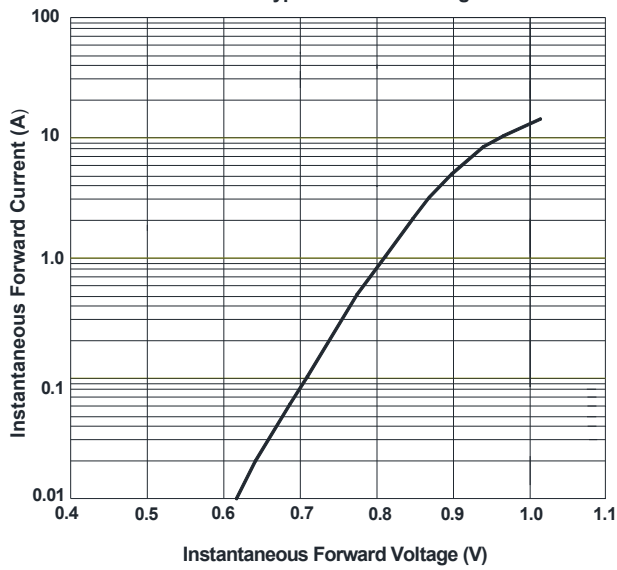


FIG.4: Typical Reverse Characteristics

