

Surface Mount Rectifier Diode

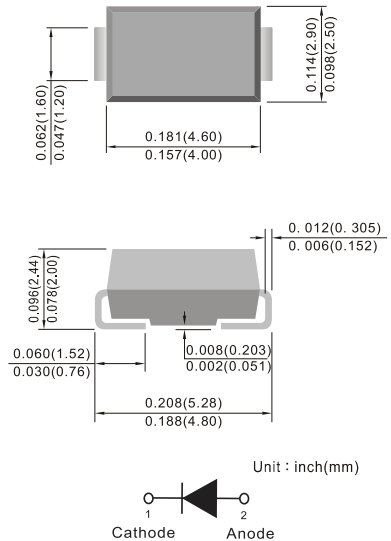
Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Mechanical Data

- **Package:** DO-214AC (SMA)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

DO-214AC (SMA)



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

Parameter	Symbol	Unit	M520
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	2000
Maximum RMS Voltage	V_{RMS}	V	1400
Maximum DC blocking Voltage	V_{DC}	V	2000
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I_O	A	1
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_j=25^{\circ}\text{C}$	I_{FSM}	A	30
Current squared time @1ms≤t≤8.3ms $T_j=25^{\circ}\text{C}$	I^2t	A ² s	3.735
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	M520
Maximum instantaneous forward voltage	V_F	V	$I_{FM}=1.0\text{A}$	1.1
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	$T_j=25^{\circ}\text{C}$	2
			$T_j=125^{\circ}\text{C}$	100
Typical junction capacitance	C_j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	7

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

Parameter	Symbol	Unit	M520
Typical Thermal Resistance	$R_{\theta J-A}^{(1)}$	$^{\circ}\text{C/W}$	70
	$R_{\theta J-L}^{(1)}$		25
	$R_{\theta J-C}^{(1)}$		15

Note

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

Characteristics (Typical)

FIG.1: Io-TL Curve

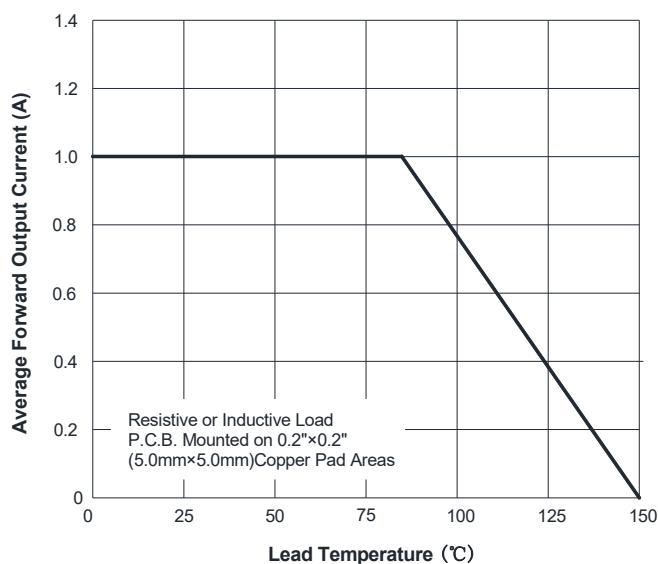


FIG.2: Forward Surge Current Capability

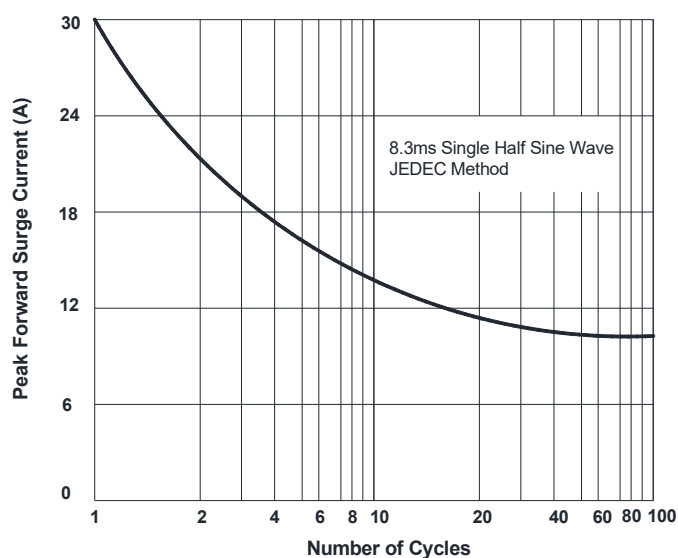


FIG.3: Typical Forward Voltage

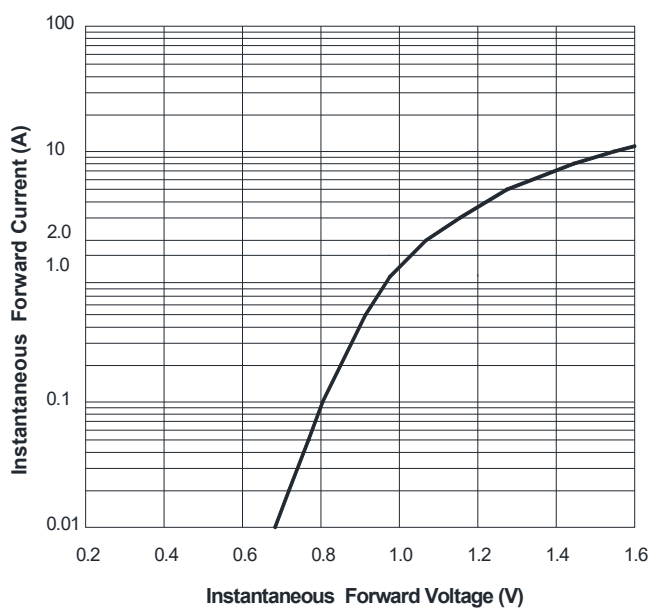


FIG.4: Typical Reverse Characteristics

