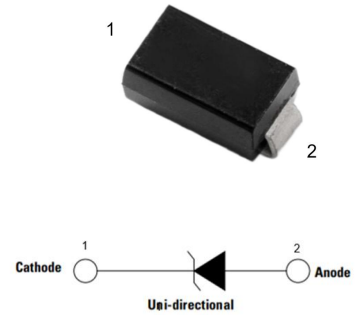


Features

- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High reverse voltage capability is up to 1000V
- ◆ Plastic package has underwriters laboratory flammability 94V-0
- ◆ High temperature soldering guaranteed: 250°C /10 seconds at terminals
- ◆ Case: SMA
- ◆ Polarity: Color band denotes positive end (cathode) except bi-directional models



Application

- ◆ Instrument
- ◆ BCM
- ◆ SRS
- ◆ CRC
- ◆ Muti-media

Dimensions (DO-214AC/SMA)

Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.250	1.650	0.049	0.065
B	3.990	4.550	0.157	0.178
C	2.540	2.790	0.100	0.110
D	1.980	2.290	0.078	0.090
E	0.780	1.550	0.030	0.061
F	-	0.203	-	0.008
G	4.75	5.280	0.194	0.208
H	0.152	0.305	0.006	0.012
I	1.800	-	0.070	-
J	2.100	-	0.082	-
K	-	2.300	-	0.090

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

Item	Symbol	M1	M2	M3	M4	M5	M6	M7	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 3)	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @ $T_J=85^\circ\text{C}$	I_O	1.0							A
Maximum Forward Voltage Drop @ $I_F=1.0\text{A}$	V_{FM}	1.1							V
Peak Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 1) @ $T_A=125^\circ\text{C}$	I_{RM}	5.0 50							μA
Typical Total Capacitance (Note 2)	C_T	15							pF
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30							A
Typical Thermal Resistance, Junction to Terminal (Note 3)	$R_{\theta JA}$	75							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

Notes:

1. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm^2 (0.013 mm thick) copper pads as heat sink.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. Short duration pulse test used to minimize self-heating effect.

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

Figure 1. Maximum Non-Repetitive Forward Surge Current

Figure 2. Typical Instantaneous Reverse Characteristics

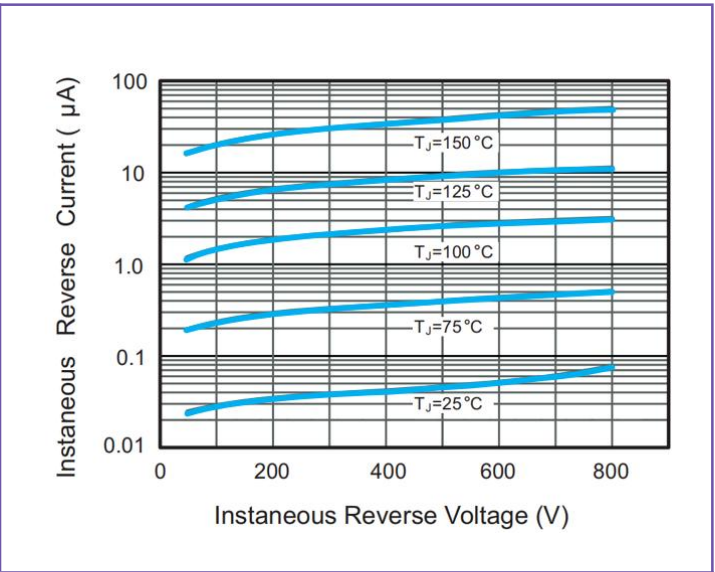
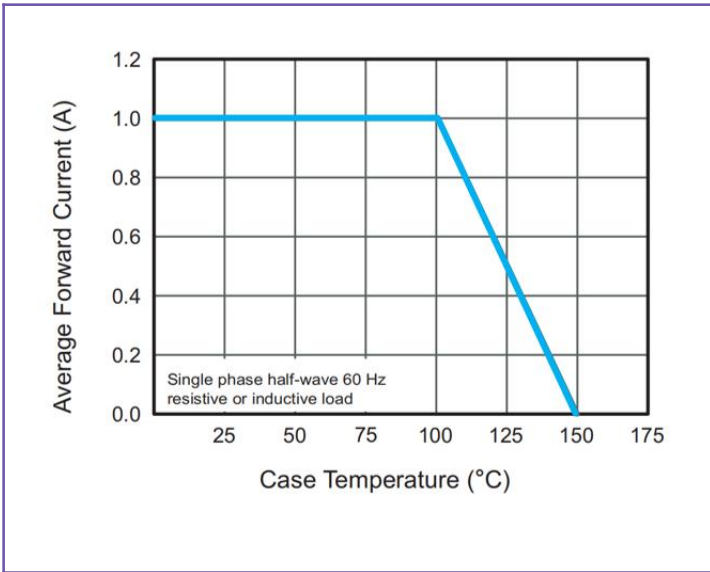


Figure 3. Typical Forward Characteristics

Figure 4. Typical Junction Capacitance

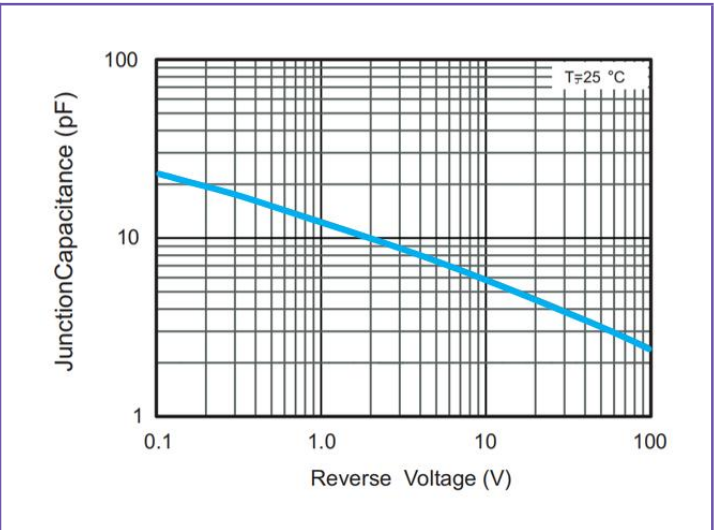
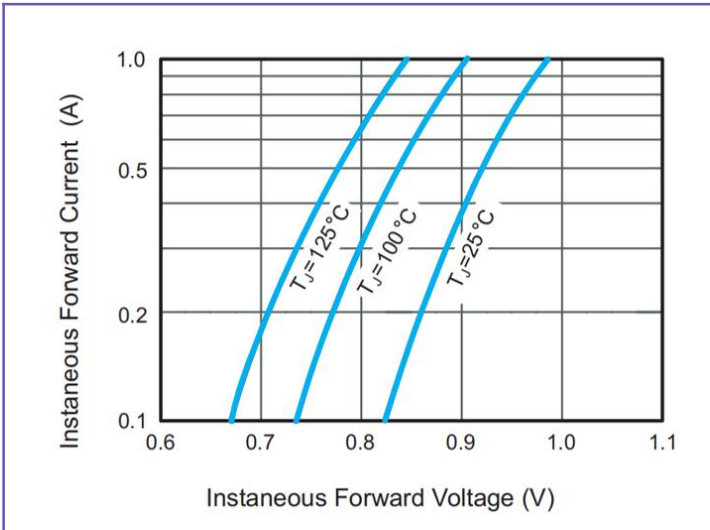
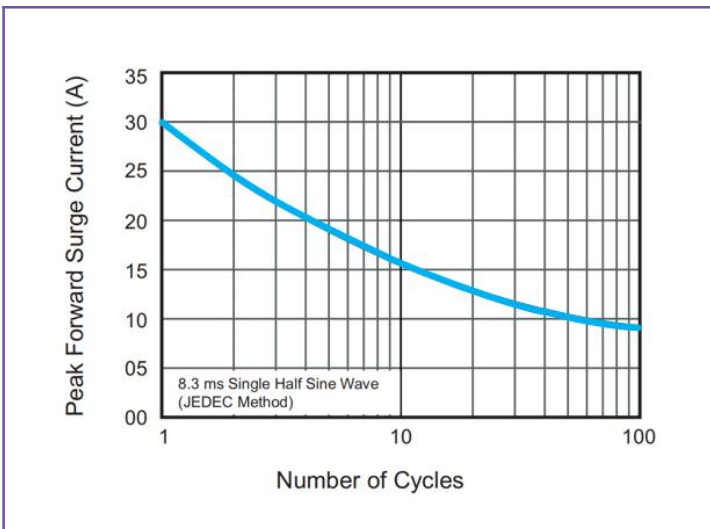
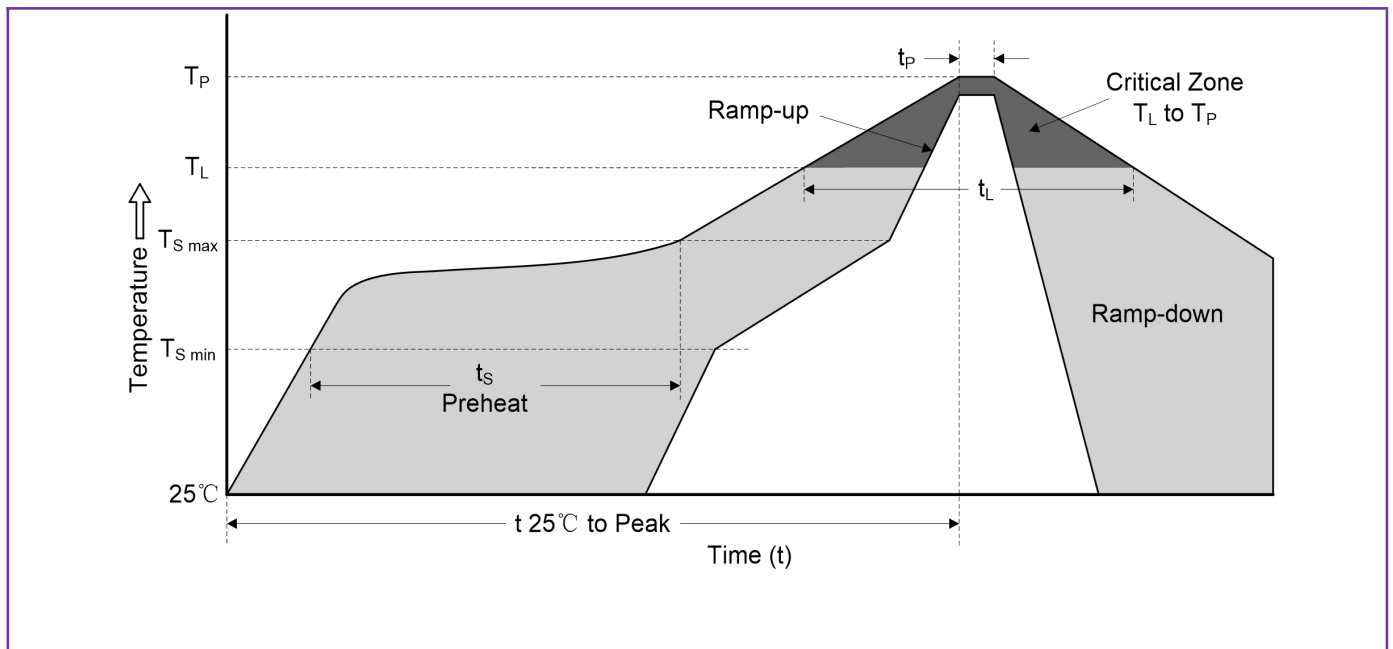


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150°C
	-Temperature Max ($T_{S\ max}$)	200°C
	-Time (min to max) (t_s)	60-180 seconds
Average ramp-up rate (T_L to T_P)		3°C/second max.
$T_{S\ max}$ to T_L -Ramp-up Rate		3°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Time (min to max) (t_s)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)°C
Time within 5°C of actual Peak Temperature (t_P)		20-40 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to Peak Temperature(T_P)		8 minutes max.
Do not exceed		260°C