

### FEATURES

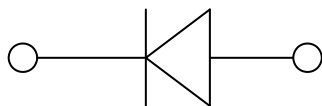
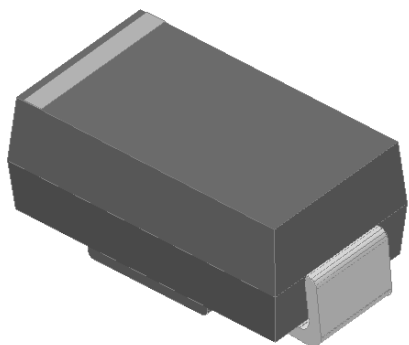
- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### TYPICAL APPLICATIONS

For use in fast switching rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

### MECHANICAL DATA

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



### MAXIMUM RATINGS & THERMAL CHARACTERISTICS (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M
Device marking code			RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M
Maximum Repetitive Peak Reverse Voltage	VRRM	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	VRMS	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	VDC	V	50	100	200	400	600	800	1000
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I <sub>O</sub>	A	1.0						
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	30						
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T <sub>j</sub> =25°C			60						
Current squared time @1ms≤t≤8.3ms T <sub>j</sub> =25°C	I <sup>2</sup> t	A <sup>2</sup> s	3.735						
Storage temperature	T <sub>stg</sub>	°C	-55 ~ +150						
Junction temperature	T <sub>j</sub>	°C	-55 ~ +150						

### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M
Maximum instantaneous forward voltage	V <sub>F</sub>	V	I <sub>FM</sub> =1.0A	1.3						
Maximum reverse recovery time	t <sub>r</sub>	ns	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>r</sub> =0.25A	150			250		500	
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	μA	T <sub>j</sub> =25°C	5						
			T <sub>j</sub> =125°C	100						
Typical junction capacitance	C <sub>j</sub>	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	11				6		

■ **THERMAL CHARACTERISTICS** ( $T_a=25^\circ\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M
Typical Thermal Resistance	R $\theta$ J-A	$^\circ\text{C}/\text{W}$	75 <sup>(1)</sup>						
	R $\theta$ J-L		35 <sup>(1)</sup>						
	R $\theta$ J-C		20 <sup>(1)</sup>						

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)**

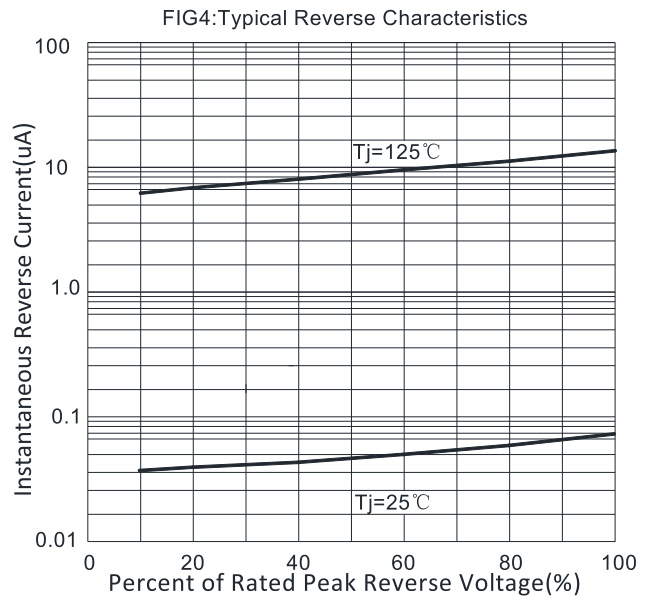
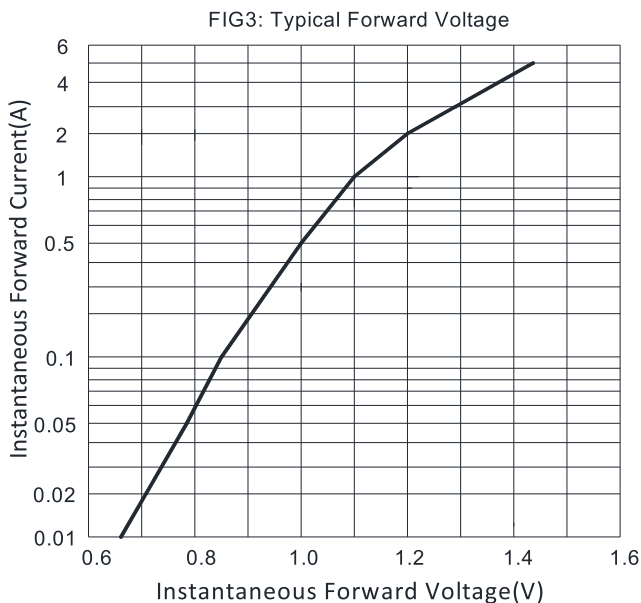
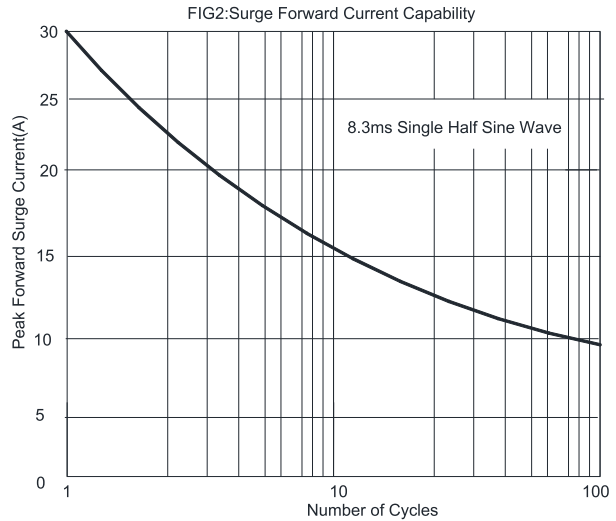
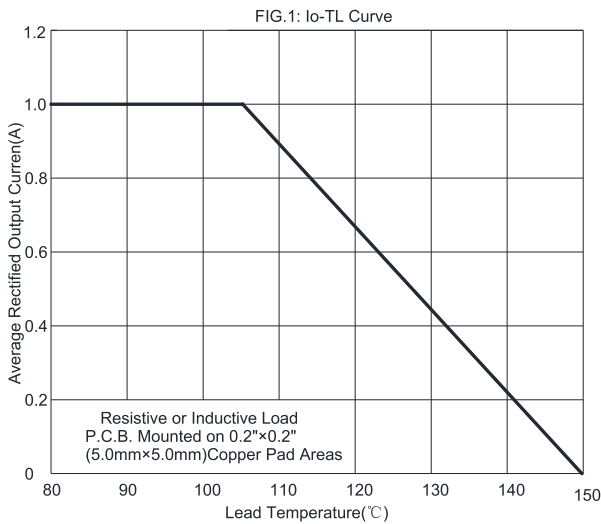
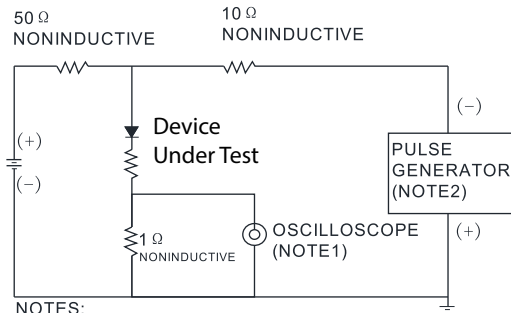
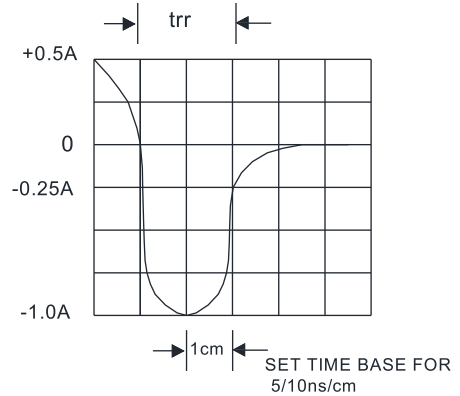


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

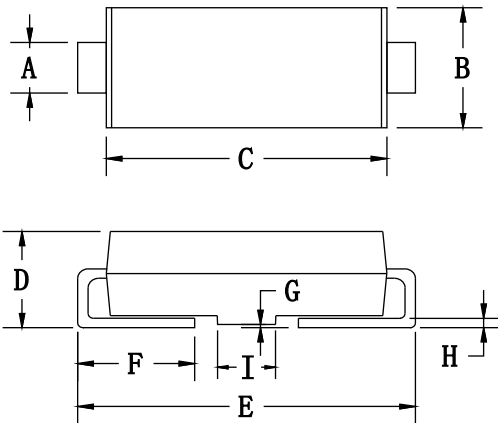


NOTES:  
1. Rise Time=7ns max .Input Impedance=1M $\Omega$  22pf  
2. Rise Time=10ns max. Source Impedance=50 $\Omega$



■ **OUTLINE DIMENSIONS**

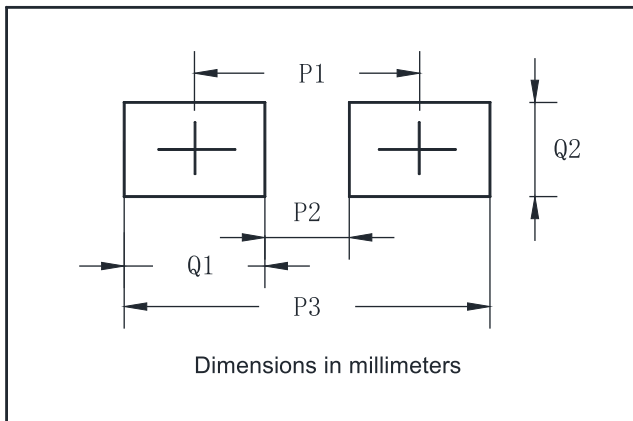
**DO-214AC(SMA)**



Dimensions in millimeters

DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.70	2.10

■ **SUGGESTED PAD LAYOUT**



Dimensions in millimeters

DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70