

## FEATURES

- | Glass Passivated Die Construction
- | Fast Recovery Time for High Efficiency
- | Low reverse leakage
- | Ideally Suited for Automatic Assembly



DO-214AC(SMA)



Schematic Symbol

## MECHANICAL DATA

- | Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- | Moisture Sensitivity: Level 1 per J-STD-020

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS AND CHARACTERISTICS (T<sub>A</sub>=25°C)

Parameter	Symbol	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Unit	
Marking		RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M		
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V	
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700		
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000		
Maximum average forward rectified current	I <sub>F(AV)</sub>	1							A	
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	30								
Maximum instantaneous forward voltage(Note1)@1A	V <sub>F</sub>	1.3							V	
Maximum DC reverse current at rated DC blocking voltage	T <sub>J</sub> =25°C	I <sub>R</sub>	5							μA
	T <sub>J</sub> =125°C		10							
Maximum reverse recovery time(Note 2)	T <sub>rr</sub>	150				250	500		ns	
Typical junction capacitance (Note3)	C <sub>J</sub>	10							pF	
Typical thermal resistance	R <sub>θJC</sub>	32							°C/W	
	R <sub>θJA</sub>	105							°C/W	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C	

Note :

1. Pulse test with PW=300us, 1% duty cycle
2. Reverse Recovery Test Conditions : I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A
3. Measured at 1 MHz and Applied V<sub>R</sub>=4.0 Volts

# CHARACTERISTIC CURVES

Fig. 1- Maximum Forward Current Derating Curve

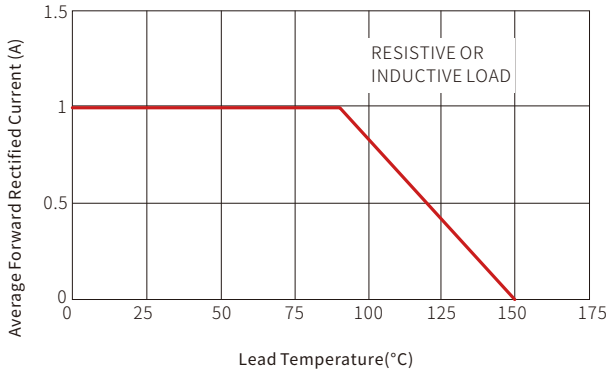


Fig. 2-Typical Reverse Characteristics

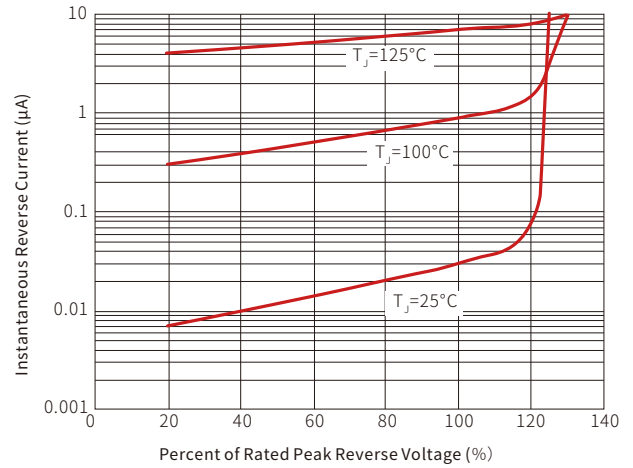


Fig. 3-Maximum Non-Repetitive Peak Forward Surge Current

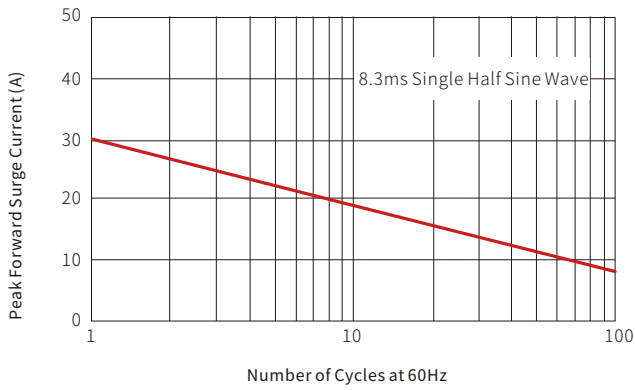
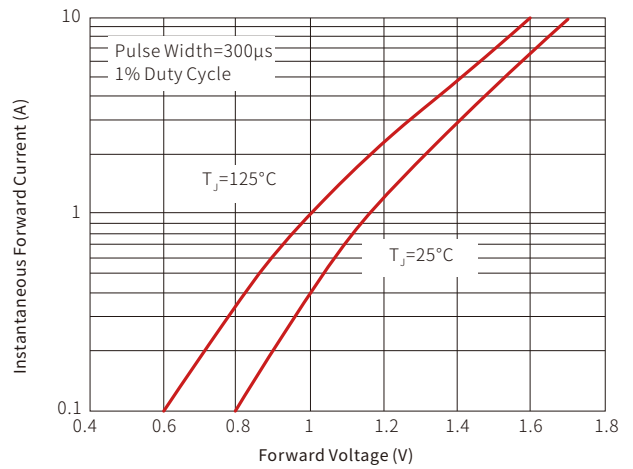
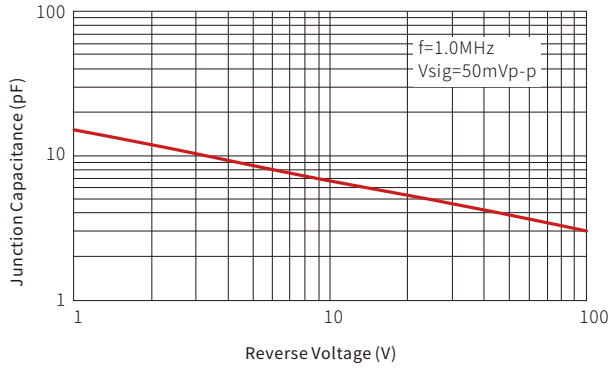


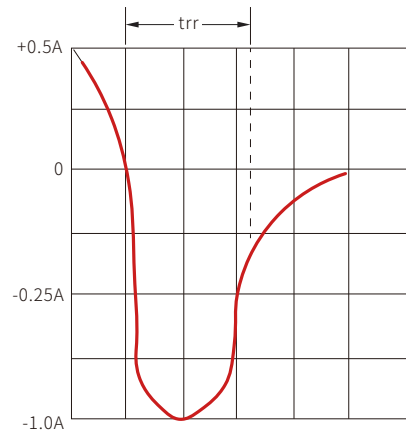
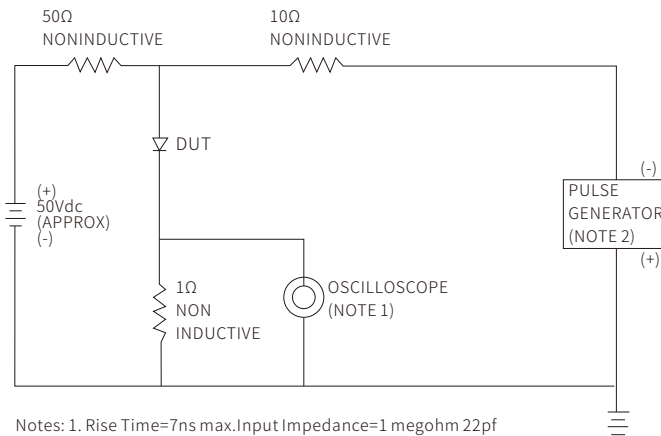
Fig. 4-Typical Instantaneous Forward Characteristics



**Fig. 5- Typical Junction Capacitance**

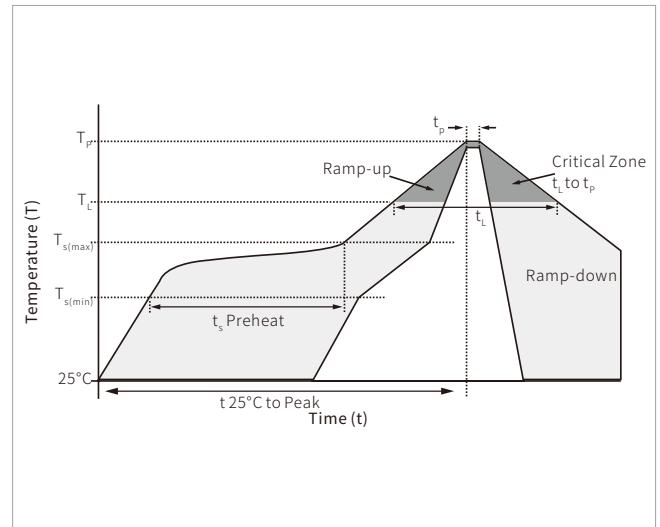


**Fig. 6-Reverse Recovery Time Characteristic And Test Circuit Diagram**

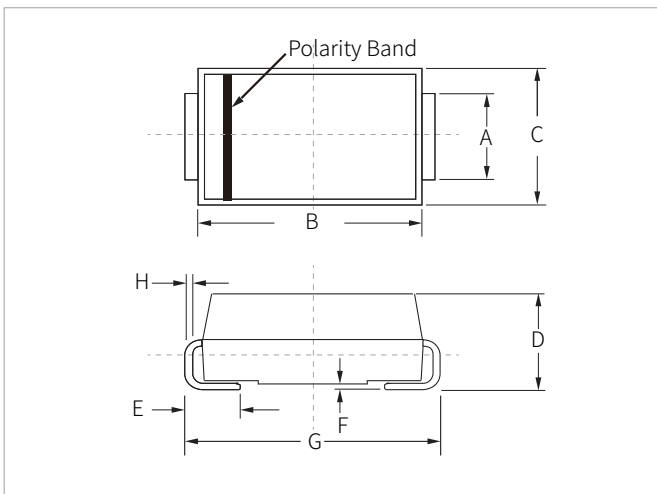


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		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) ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°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

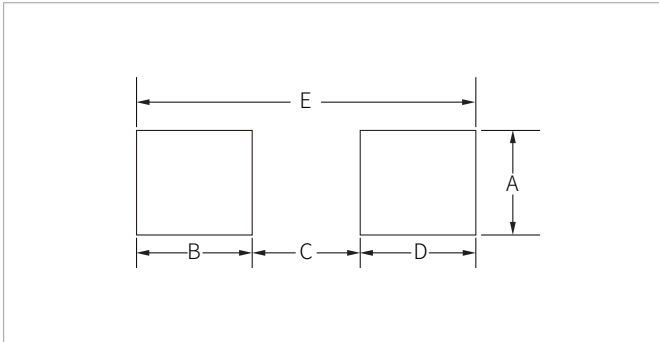


## DO-214AC(SMA) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.20	1.60	0.047	0.063
B	4.20	4.60	0.165	0.181
C	2.40	2.80	0.094	0.110
D	2.00	2.40	0.079	0.094
E	0.76	1.52	0.030	0.060
F	0.02	0.20	0.001	0.008
G	4.85	5.25	0.191	0.207
H	0.15	0.30	0.006	0.012

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.63	-	0.064	-
B	1.45	-	0.057	-
C	-	2.80	-	0.090
D	1.45	-	0.057	-
E	5.28REF		0.208REF	

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
RS1A-RS1M	DO-214AC(SMA)	5000PCS	13"

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