

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

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

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=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 _{RRM}	50	100	200	400	600	800	1000	V	
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700		
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000		
Maximum average forward rectified current	I _{F(AV)}	1							A	
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	30								
Maximum instantaneous forward voltage(Note1)@1A	V _F	1.3							V	
Maximum DC reverse current at rated DC blocking voltage	T _J =25°C	I _R	5							µA
	T _J =125°C		10							
Maximum reverse recovery time(Note 2)	T _{rr}	150				250	500		ns	
Typical junction capacitance (Note3)	C _J	10							pF	
Typical thermal resistance	R _{θJC}	32							°C/W	
	R _{θJA}	105							°C/W	
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150							°C	

Note :

1. Pulse test with PW=300us, 1% duty cycle
2. Reverse Recovery Test Conditions : I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
3. Measured at 1 MHz and Applied V_R=4.0 Volts

CHARACTERISTIC CURVES

Fig. 1- Maximum Forward Current Derating Curve

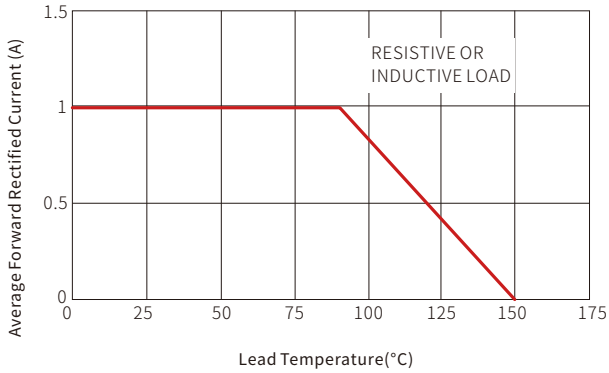


Fig. 2-Typical Reverse Characteristics

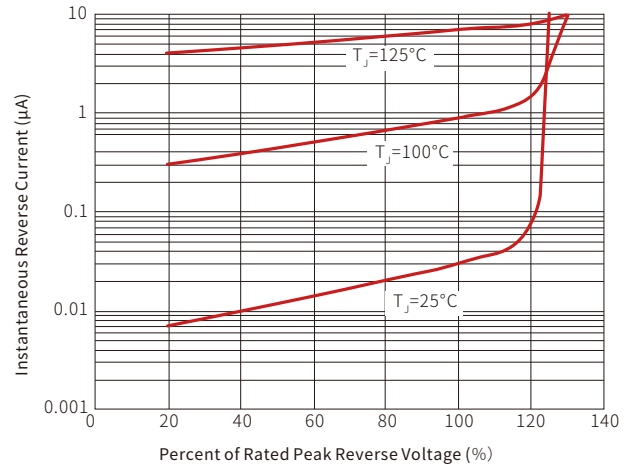


Fig. 3-Maximum Non-Repetitive Peak Forward Surge Current

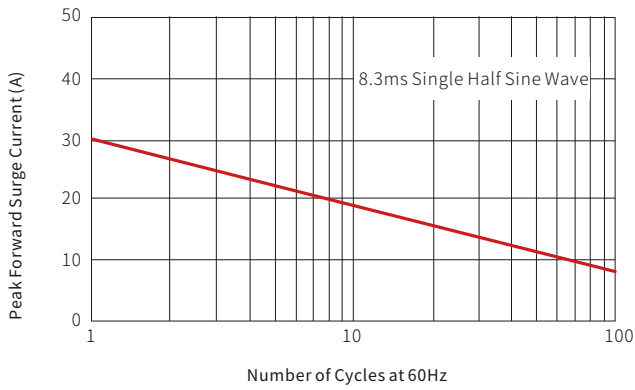


Fig. 4-Typical Instantaneous Forward Characteristics

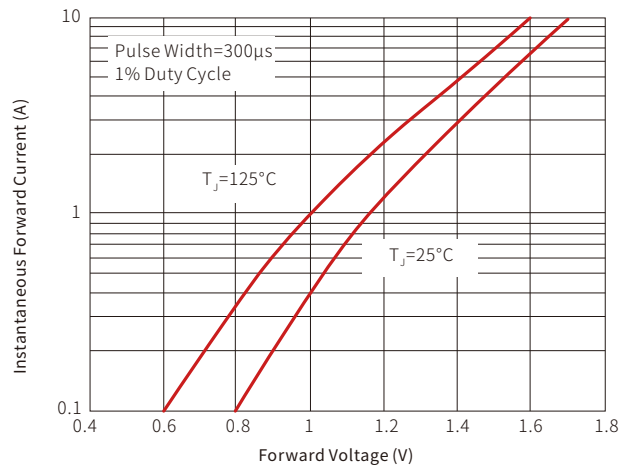


Fig. 5- Typical Junction Capacitance

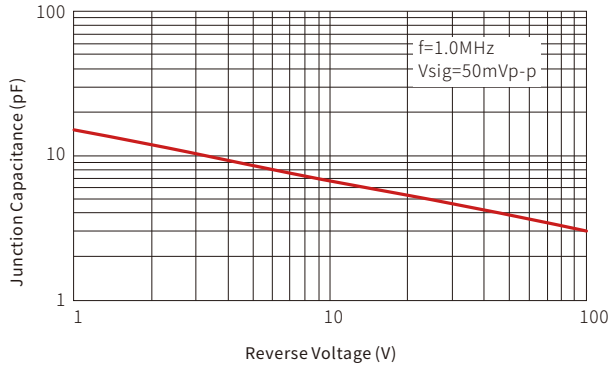
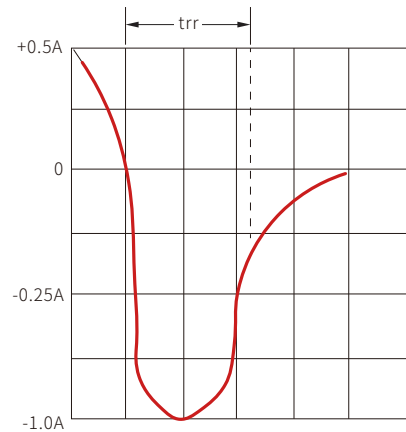
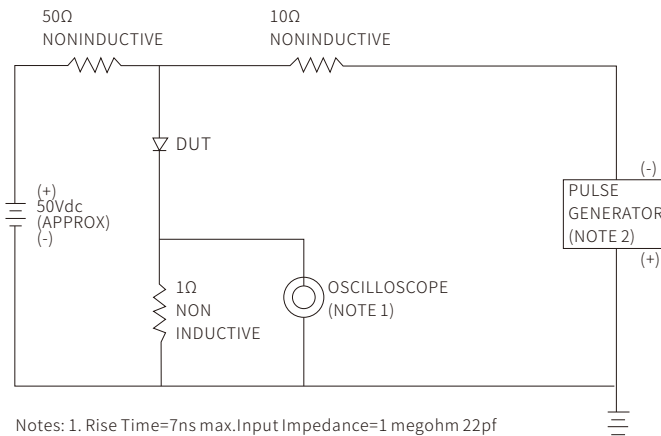
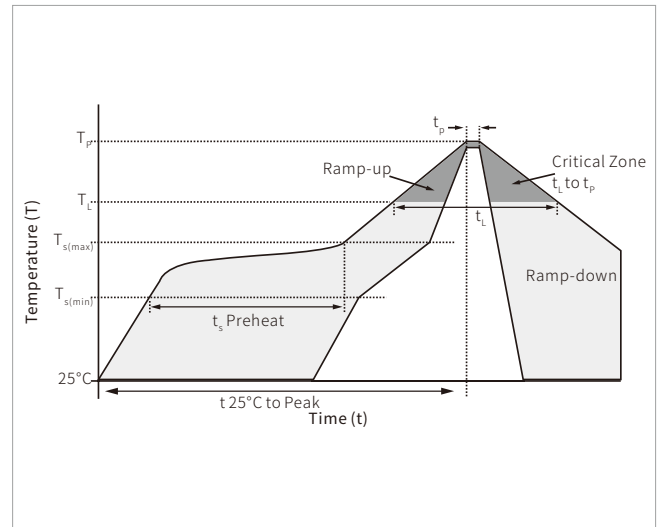


Fig. 6-Reverse Recovery Time Characteristic And Test Circuit Diagram

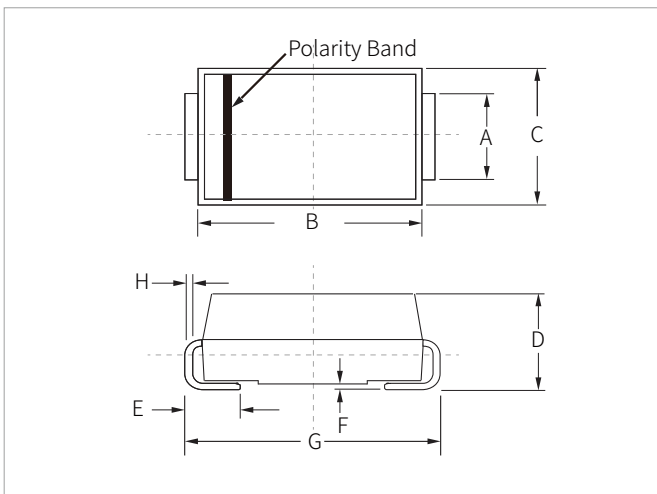


SOLDERING PARAMETERS

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

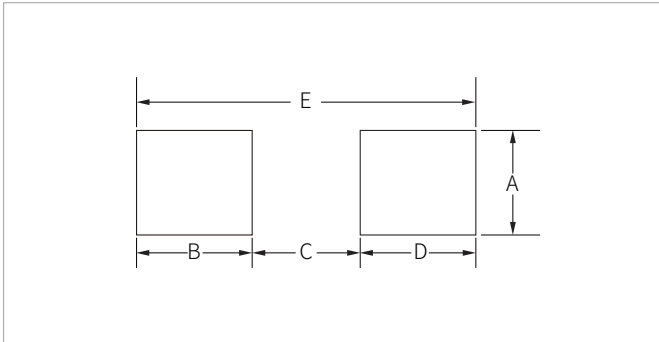


DO-214AC(SMA) PACKAGE INFORMATION



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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