

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 ($T_A=25^{\circ}\text{C}$)

Parameter		Symbol	RS1AA	RS1BA	RS1DA	RS1GA	RS1JA	RS1KA	RS1MA	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							
Maxiumum 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 $PW=300\mu\text{s}$, 1% duty cycle
2. Reverse Recovery Test Conditions : $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
3. Measured at 1 MHz and Applied $V_R=4.0\text{ Volts}$

CHARACTERISTIC CURVES

Fig. 1- Maximum Forward Current Derating Curve

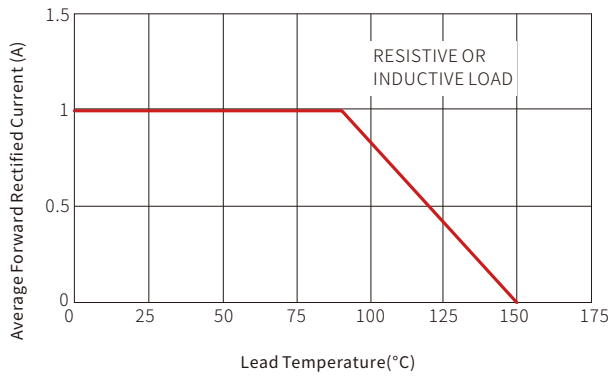


Fig. 2-Typical Reverse Characteristics

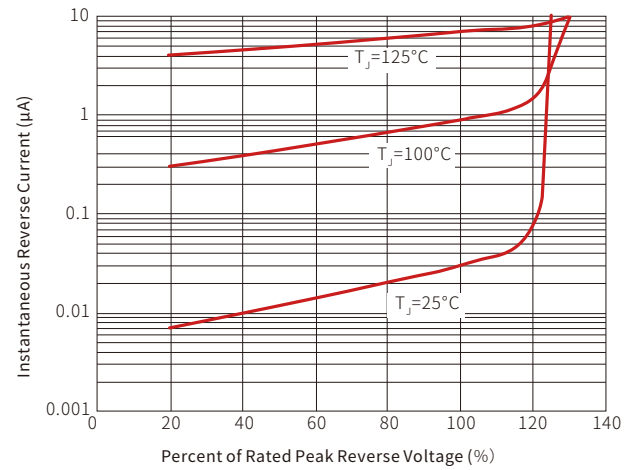


Fig. 3-Maximum Non-Repetitive Peak Forward Surge Current

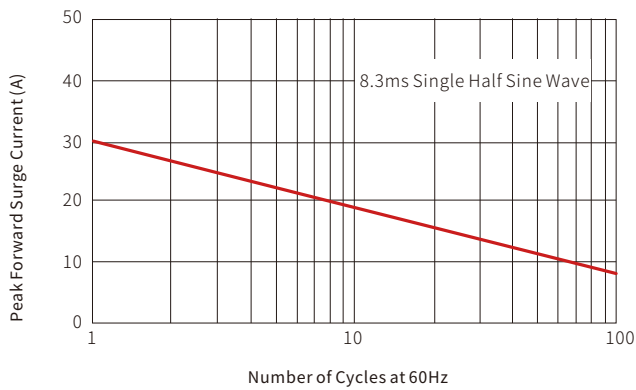


Fig. 4-Typical Instantaneous Forward Characteristics

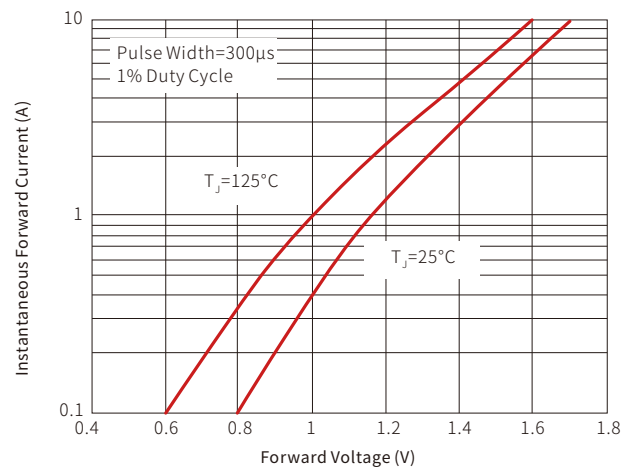
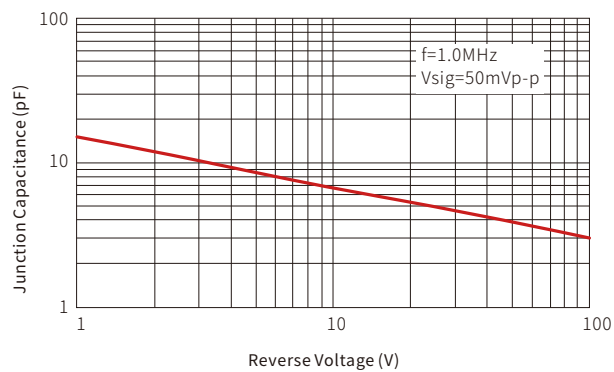
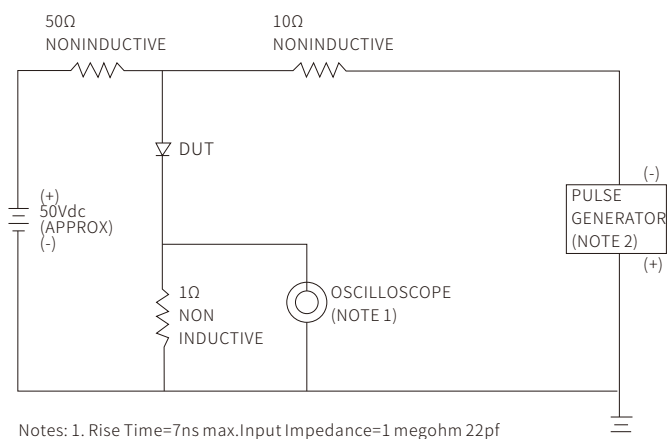
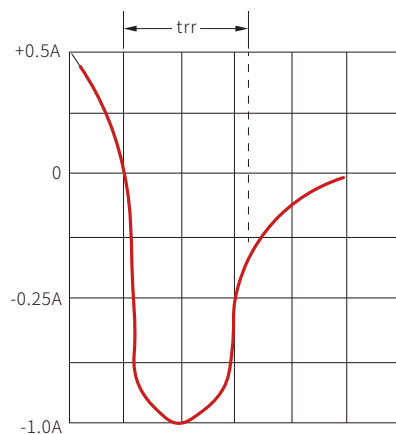


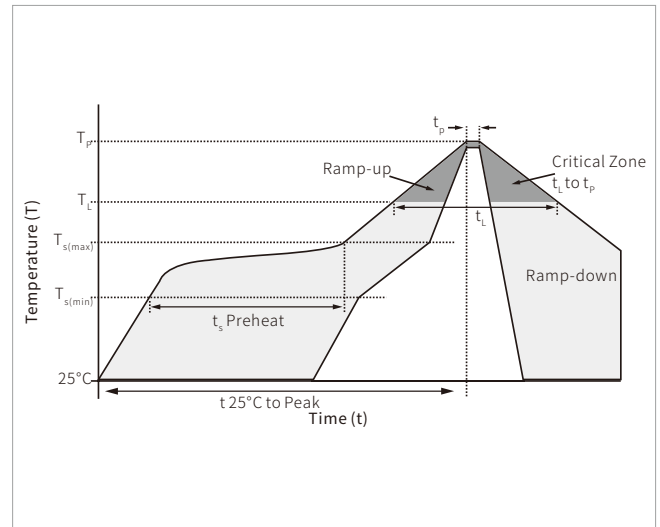
Fig. 5- Typical Junction Capacitance

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


Notes: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf
 2. Rise Time=10ns max. Source Impedance=50 ohms

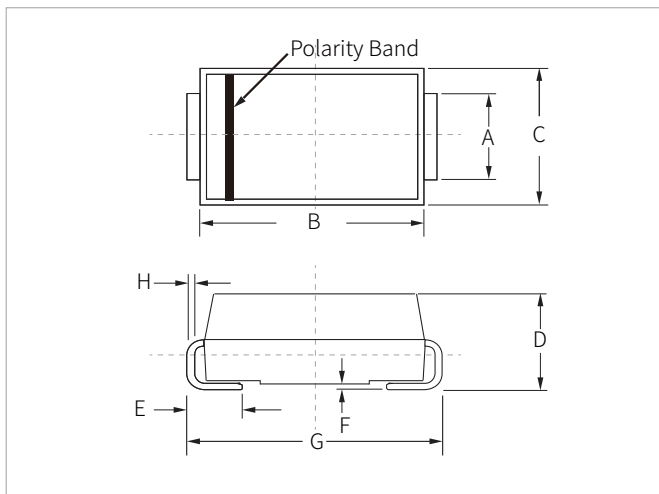


SOLDERING PARAMETERS

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

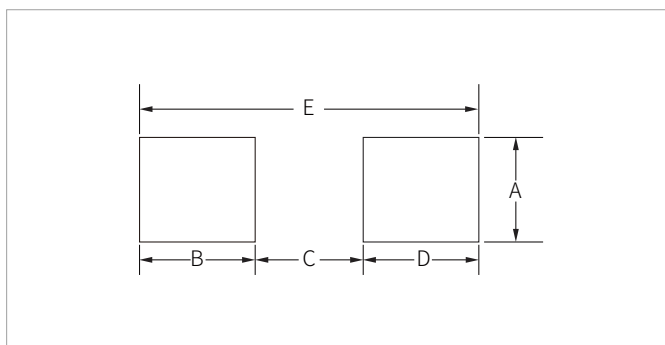


DO-214AC(SMA) PACKAGE INFORMATION



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
RS1AA-RS1MA	DO-214AC(SMA)	5000PCS	13"

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