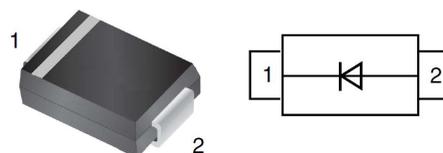


Fast Recovery Surface Mount Rectifier in DO-214AC/SMA

Features

- For surface mounted application
- Glass passivated junction chip
- Built-in strain relief, ideal for automated placement
- Fast switching for high efficiency



Mechanical Data

- **Case:** JEDEC DO-214AC(SMA)molded plastic
Lead free; RoHS compliant
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals

Maximum Ratings And Electrical Characteristics

Ratings at 25° C ambient temperature unless otherwise specified.
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current See Fig. 1 @ $T_J=90^{\circ}C$	$I_{(AV)}$	1.0							Amp
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0							Amps
Maximum instantaneous forward voltage @ 1.0A	V_F	1.3							Volts
Maximum DC reverse current at rated DC blocking voltage	I_R	5.0 50							μA
Maximum reverse recovery time (Note 1)	t_r	150				250	500		nS
Typical junction capacitance (Note 2)	C_J	10							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	105.0 32.0							$^{\circ}C/W$
Operating temperature range	T_J	-55 to +150							$^{\circ}C$
Storage temperature range	T_{STG}	-55 to +150							$^{\circ}C$

- Notes:**
1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
 2. Measured at 1 MHz and Applied $V_R=4.0$ Volts
 3. Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.2" x 0.2" (5.0 x 5.0 mm) Copper Pad Areas

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Figure 1. Forward Current Derating Curve

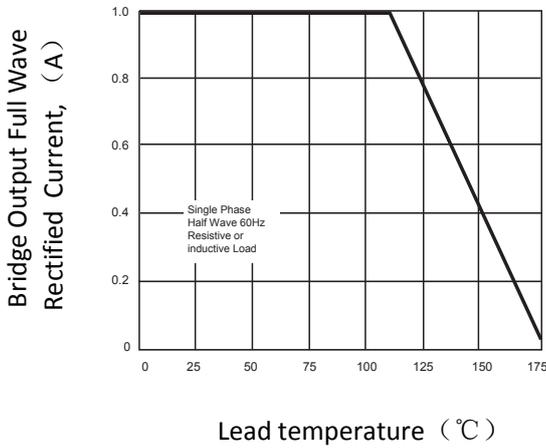


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

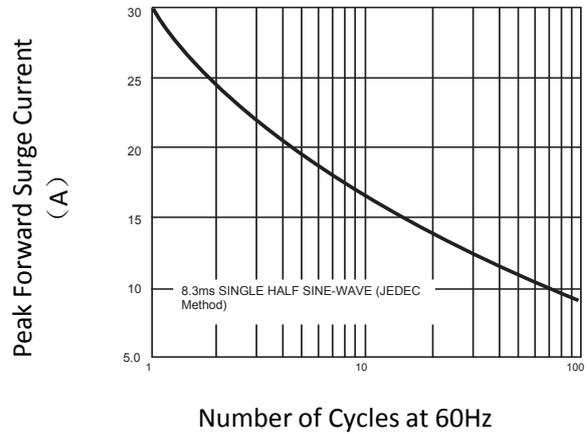


Figure 3. Typical Instantaneous Forward Characteristics

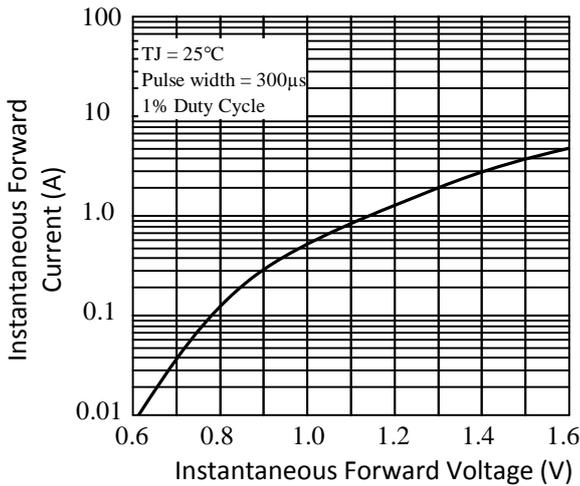


Figure 4. Typical Reverse Characteristics

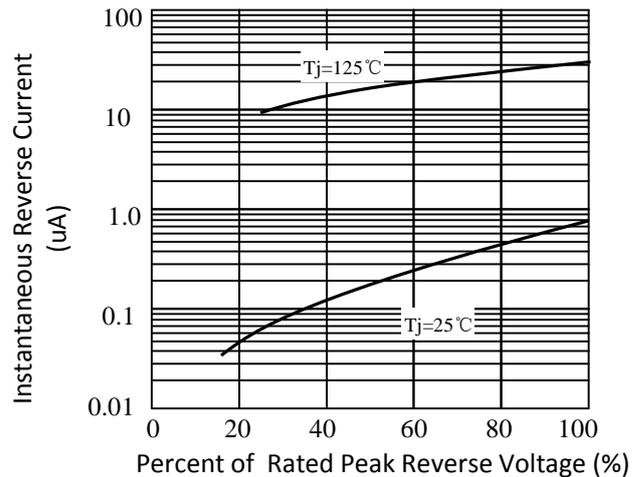


Figure 5. Typical Junction Capacitance

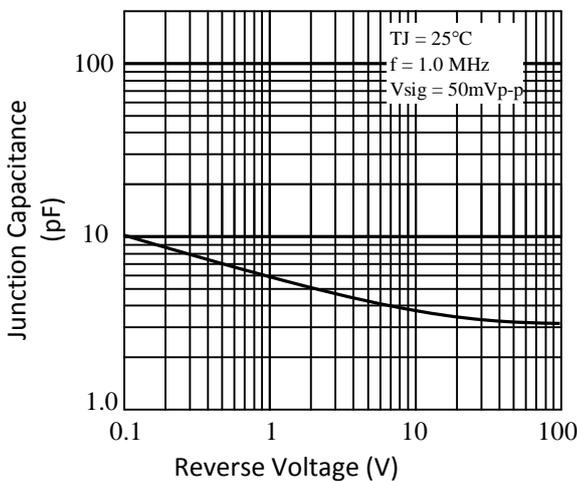
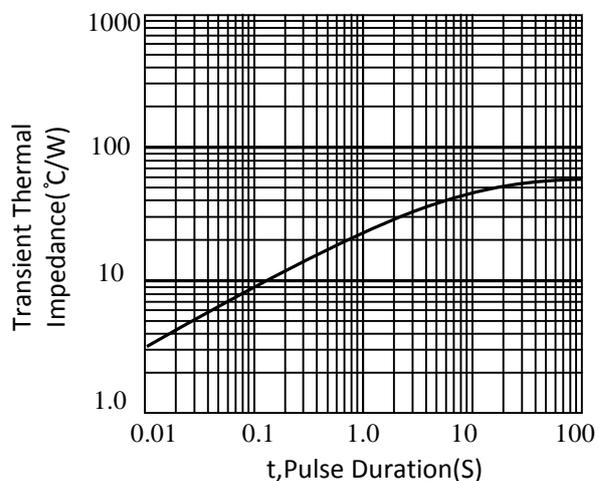
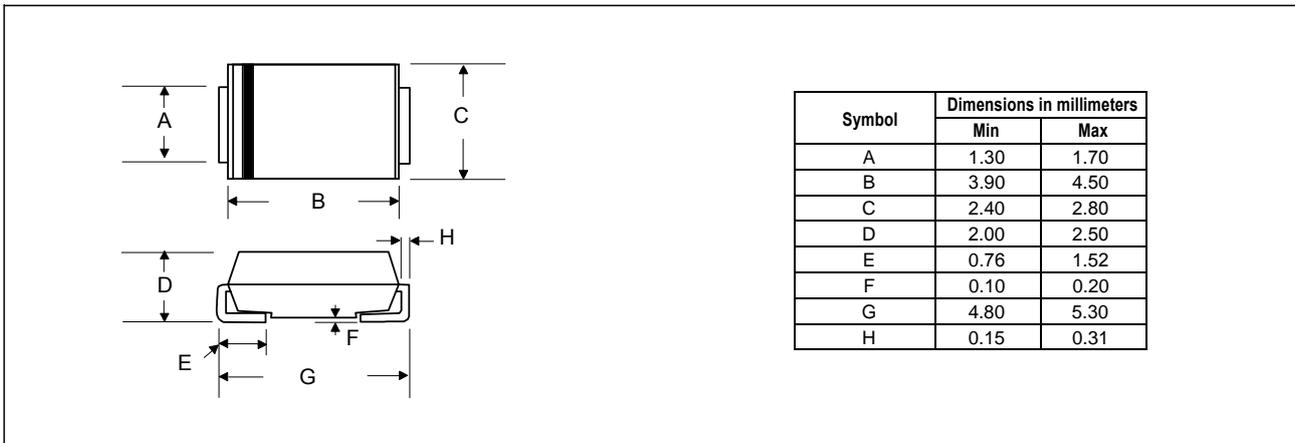


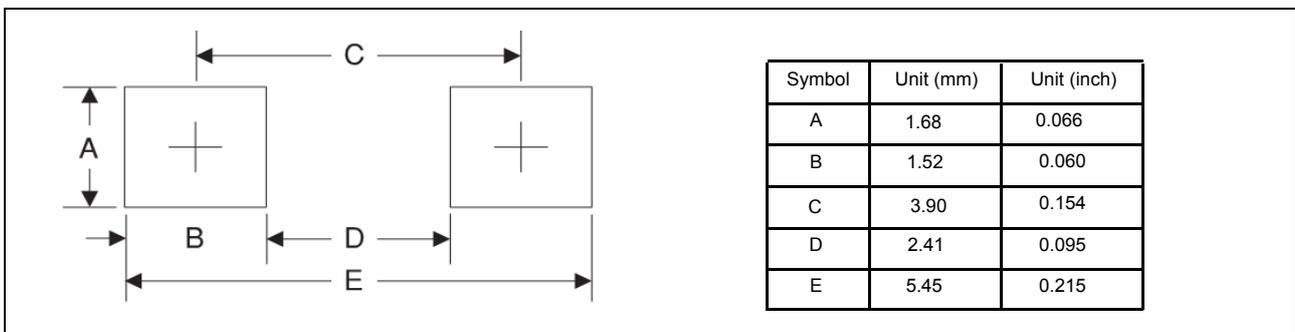
Figure 6. Typical Transient Thermal Impedance



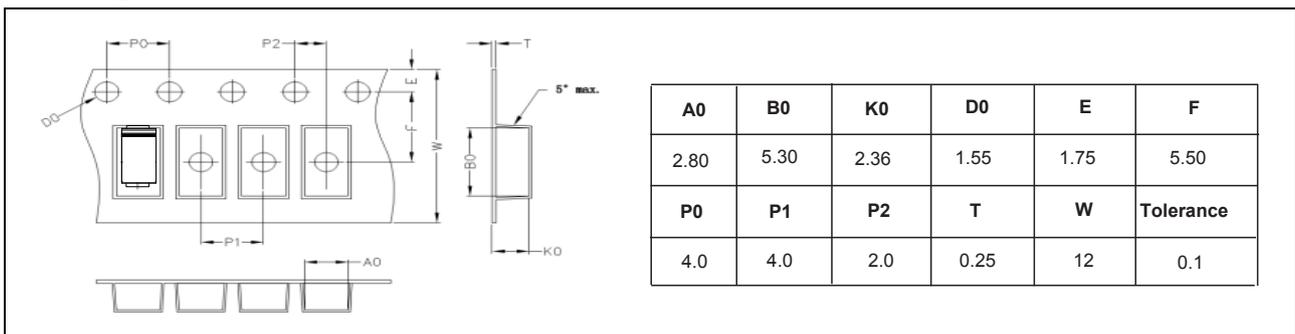
Package Dimensions



PAD Dimensions



Packing Information



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
RS1A Thur RS1M	DO-214AC/SMA	Tape and reel	5000pcs / reel	EIA STD RS-481

Revision history

Date	Revision	Changes
23-May-2012	1.0	Initial release
21-May-2019	2.0	Update

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