



VOLTAGE RANGE: 100 --- 600 V

CURRENT: 1.0 A

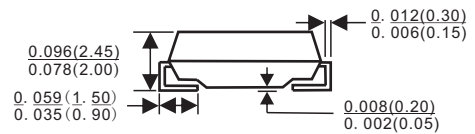
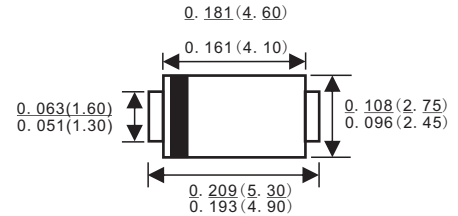
SMA/DO-214AC

Features

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

Mechanical Data

- ◇ Case: JEDEC DO-214AC, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.002 ounces, 0.064 grams
- ◇ Mounting position: Any



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

Parameter	Symbol	ER1AA	ER1BA	ER1CA	ER1DA	ER1EA	ER1GA	ER1HA	ER1JA		
Marking code		ER1A	ER1B	ER1C	ER1D	ER1E	ER1G	ER1H	ER1J	UNITS	
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V	
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V	
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V	
Maximum average forward rectified current @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.0								A	
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	30.0								A	
Maximum instantaneous forward voltage @ 1.0A	V_F	0.95			1.25		1.7			V	
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	I_R					5.0					μA
						100					
Maximum reverse recovery time (Note 1)	t_{rr}					35					ns
Typical junction capacitance (Note 2)	C_J					22					pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$					50					$^\circ\text{C/W}$
Operating junction temperature range	T_J					- 55 ----- + 150					$^\circ\text{C}$
Storage temperature range	T_{STG}					- 55 ----- + 150					$^\circ\text{C}$

NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

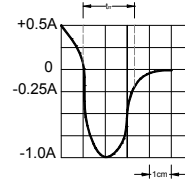
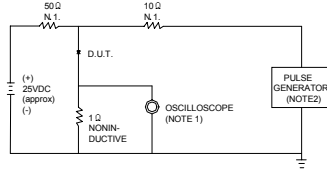
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance junction to ambient.



Ratings AND Characteristic Curves

FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

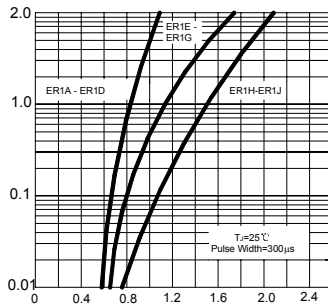


NOTES: 1. RISE TIME = 7ns MAX INPUT IMPEDANCE = 1MΩ. 22pF.
2. RISE TIME = 10ns MAX SOURCE IMPEDANCE = 50 Ω.

SET TIME BASE FOR 10/20 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

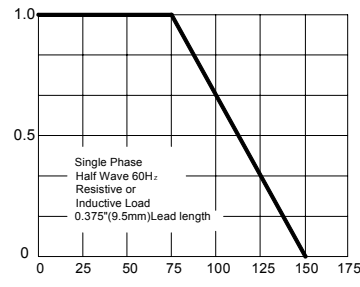
INSTANTANEOUS FORWARD CURRENT, AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.3 – FORWARD DERATING CURVE

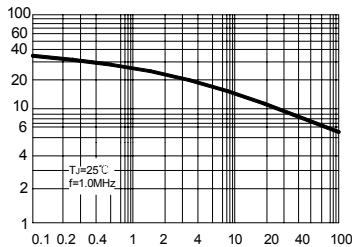
AVERAGE FORWARD CURRENT AMPERES



AMBIENT TEMPERATURE, °C

FIG.4 – TYPICAL JUNCTION CAPACITANCE

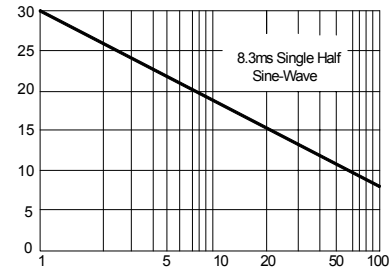
JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

FIG.5 – PEAK FORWARD SURGE CURRENT

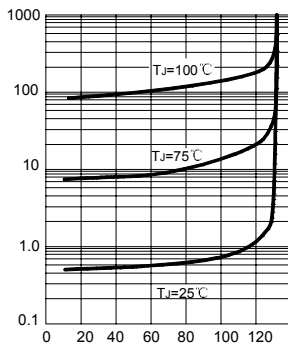
PEAK FORWARD SURGE CURRENT, AMPERES



NUMBER OF CYCLES AT 60Hz

FIG.6 – TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES



PERCENT OF RATED PEAK REVERSE VOLTAGE. %

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMA	5000/REEL	80000	36X30.6X31	12.00	11.00