

ER1A-ER1J

Surface Mount Rectifiers

VOLTAGE RANGE: 100 --- 600 V

CURRENT: 1.0 A



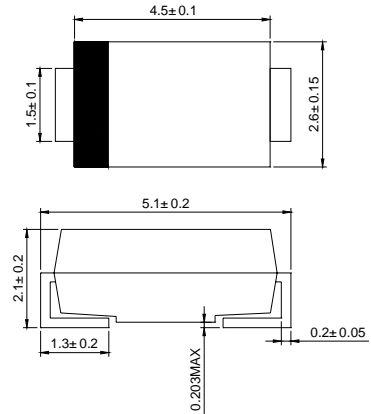
DO - 214AC(SMA)

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 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%.

		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 @ $T_A=75^\circ C$	$I_{F(AV)}$	1.0								A	
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	I_{FSM}	30.0								A	
Maximum instantaneous forward voltage @ 1.0A	V_F	0.95			1.25		1.7			V	
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=125^\circ C$	I_R	5.0				100					μA
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									$^\circ C/W$
Operating junction temperature range	T_J	- 55 ----- + 150								$^\circ C$	
Storage temperature range	T_{STG}	- 55 ----- + 150								$^\circ C$	

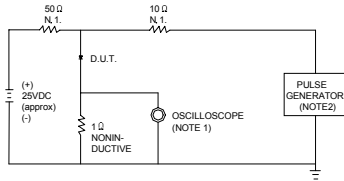
NOTE: 1. Measured with $I_F=0.5A$, $I_R=1A$, $t_{rr}=0.25A$.

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

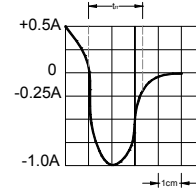
3. Thermal resistance junction to ambient.

Ratings AND Characteristic Curves

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



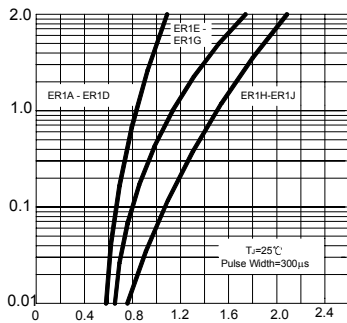
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ. 22pF.
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω.



SET TIME BASE FOR 10/20 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

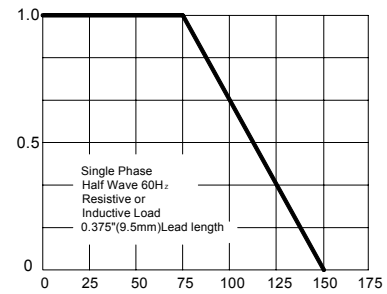
INSTANTANEOUS FORWARD CURRENT, AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.3 – FORWARD DERATING CURVE

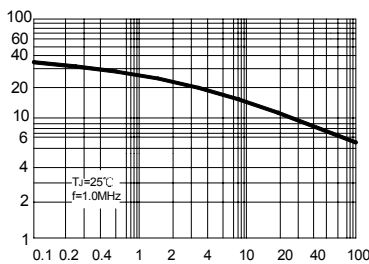
AVERAGE FORWARD CURRENT AMPERES



AMBIENT TEMPERATURE, °C

FIG.4 – TYPICAL JUNCTION CAPACITANCE

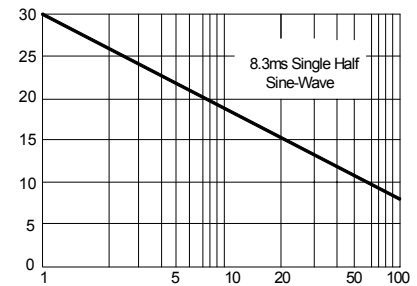
JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

FIG.5 – PEAK FORWARD SURGE CURRENT

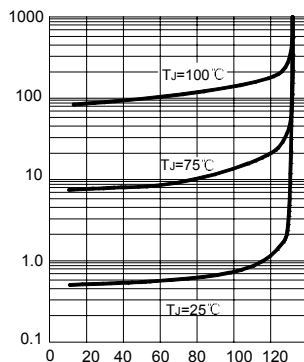
PEAK FORWARD SURGE CURRENT, AMPERES



NUMBER OF CYCLES AT 60Hz

FIG.6 – TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES



PERCENT OF RATED PEAK REVERSE VOLTAGE. %