

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 100 — 600 V
CURRENT: 1.0 A

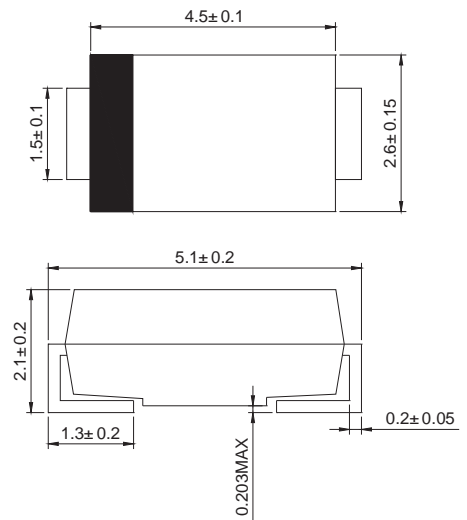
FEATURES

- 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
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode Weight: 0.002 ounces, 0.064 grams Mounting position: Any

DO - 214AC(SMA)



Dimensions in millimeters

MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted) 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 @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	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
Maximum reverse recovery time (Note 1)	t_{rr}	100								ns
Typical junction capacitance (Note 2)	C_J	35								pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	22								$^\circ\text{C}/\text{W}$
Operating junction temperature range	T_J	50								$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ----- + 150								$^\circ\text{C}$

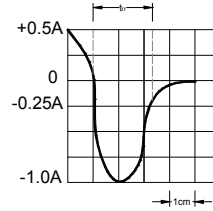
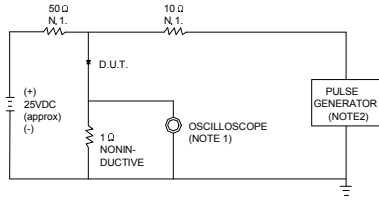
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

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

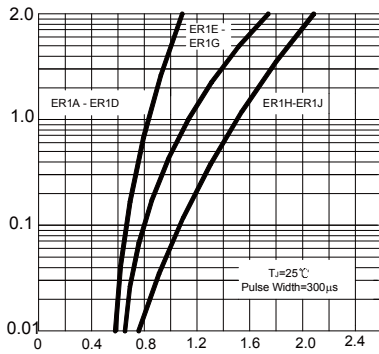


NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ, 22pF.
2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω.

SET TIME BASE FOR 10/20 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

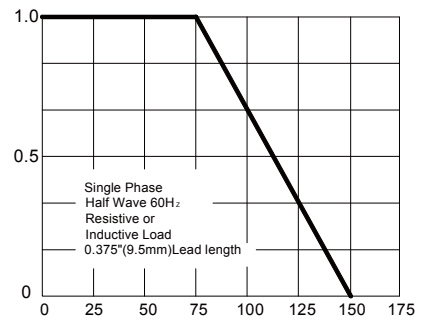
INSTANTANEOUS FORWARD CURRENT, AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.3 – FORWARD DERATING CURVE

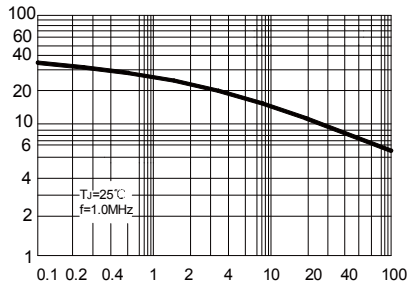
AVERAGE FORWARD CURRENT AMPERES



AMBIENT TEMPERATURE, °C

FIG.4 – TYPICAL JUNCTION CAPACITANCE

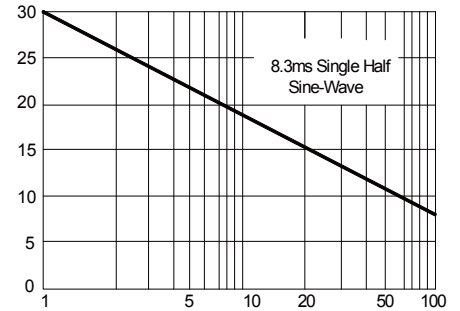
JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

FIG.5 – PEAK FORWARD SURGE CURRENT

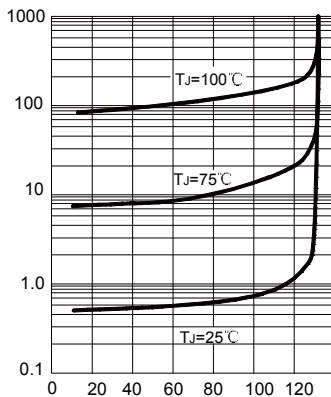
PEAK FORWARD SURGE CURRENT, AMPERES



NUMBER OF CYCLES AT 60Hz

FIG.6 – TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES



PERCENT OF RATED PEAK REVERSE VOLTAGE, %