

ES1A-ES1J

Surface Mount Rectifiers



VOLTAGE RANGE: 50 --- 600 V

CURRENT: 1.0 A

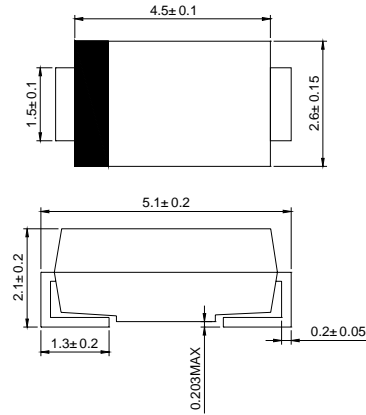
Features

- ✧ 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 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%.

		ES1A	ES1B	ES1C	ES1D	ES1G	ES1H	ES1J	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	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							A
Maximum instantaneous forward voltage at 1.0 A	V_F	0.98		1.25		1.70		V	
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	I_R	5.0 200							μA
Typical reverse recovery time (Note1)	t_{rr}	35							ns
Typical junction capacitance (Note2)	C_J	19							pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	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 $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

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

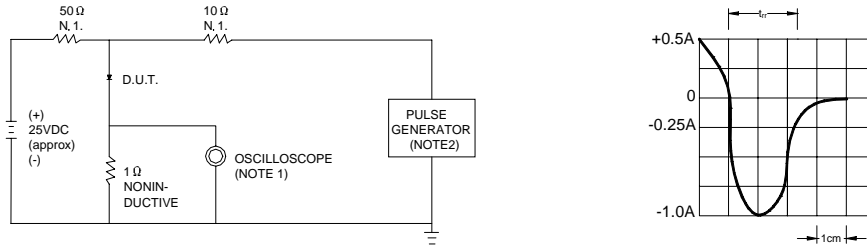
3. Thermal resistance from junction to ambient and junction to lead P.C.B. mounted on 0.27"X0.27"(7.0X7.0mm²) copper pad areas

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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 = 50Ω.

SET TIME BASE FOR 10/15 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

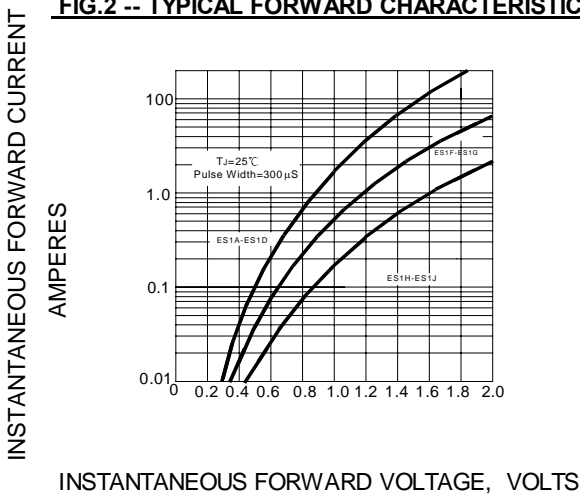


FIG.3 -- FORWARD DERATING CURVE

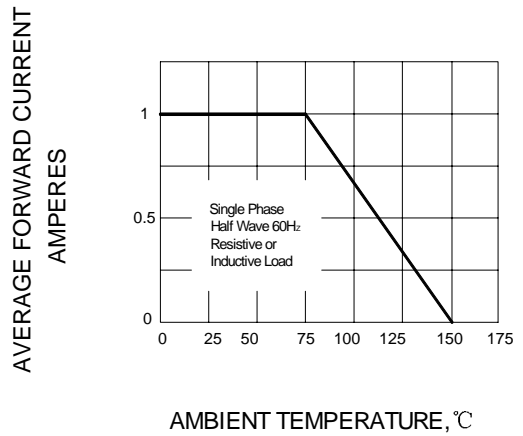


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

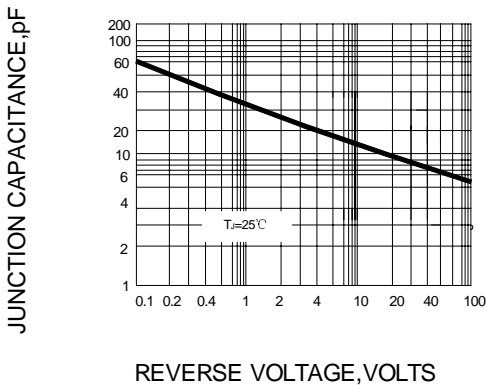
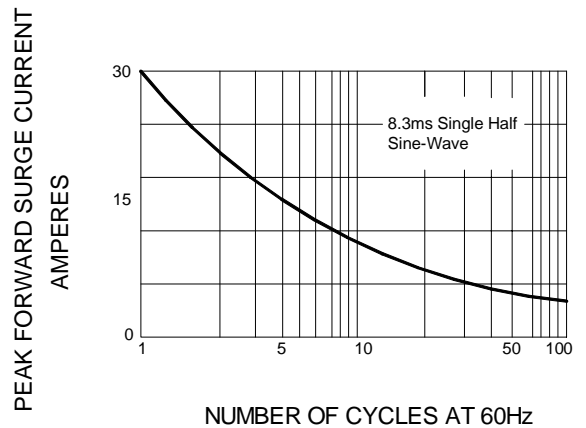


FIG.5 -- PEAK FORWARD SURGE CURRENT



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