



DATA SHEET

ES1A~ES1J

SURFACE MOUNT SUPERFAST RECTIFIER

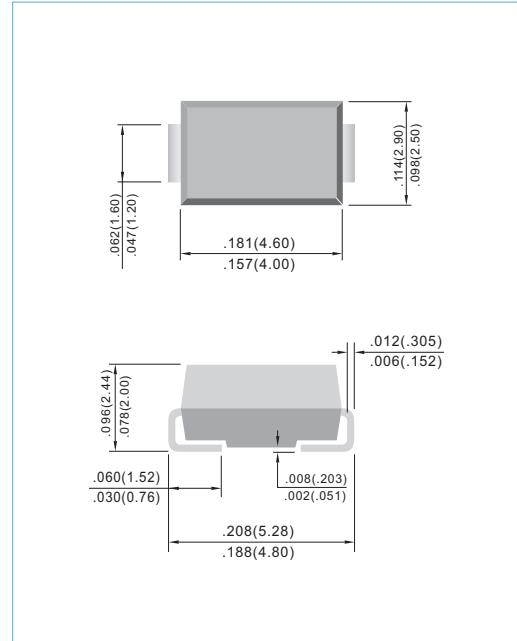
VOLTAGE 50 to 600 Volts **CURRENT** 1.0 Amperes

SMA/DO-214AC

Unit: inch (mm)

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- In compliance with EU RoHS 2002/95/EC directives



MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic
 Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
 Polarity: Indicated by cathode band
 Standard packaging: 12mm tape (EIA-481)
 Weight: 0.002 ounce, 0.064 gram

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 current by 20%.

PARAMETER	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Current .375" (9.5mm) lead length at $T_L=120^\circ\text{C}$	I_{AV}	1.0							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30							A
Maximum Forward Voltage at 1.0A	V_F	0.95				1.25		1.7	V
Maximum DC Reverse Current $T_a=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a=100^\circ\text{C}$	I_R					5.0		150	uA
Maximum Reverse Recovery Time (NOTE 1)	T_{RR}					35			ns
Typical Junction capacitance (Note 2)	C_J					7.0			pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JL}$					35			$^\circ\text{C} / \text{W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-50 TO +150							$^\circ\text{C}$

NOTES:

- 1.Reverse Recovery Tset Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$
- 2.Measured at 1.0MHz and applied reverse voltage of 4.0 volts.
- 3.8.0mm²(.013mm thick) land areas.



RATING AND CHARACTERISTIC CURVES

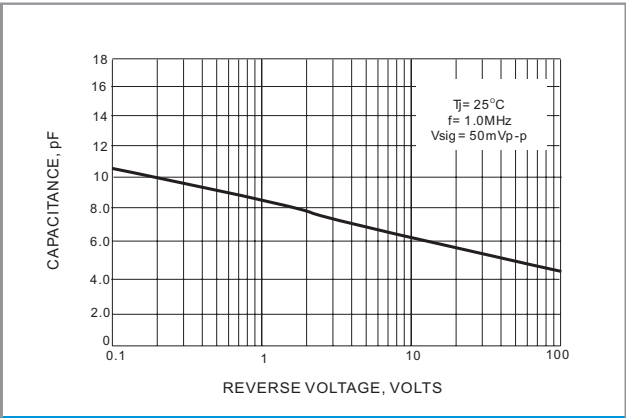


FIG. 1 TYPICAL JUNCTION CAPACITANCE

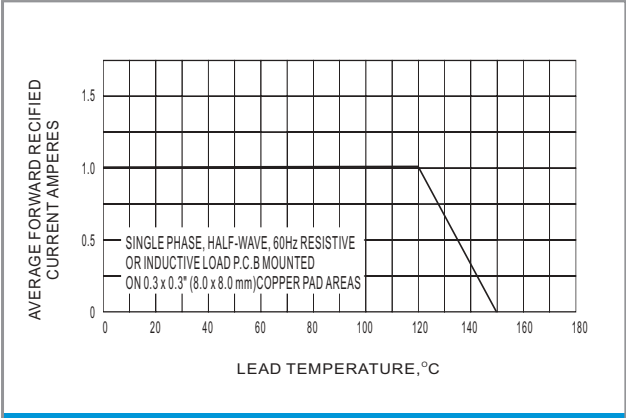


FIG. 2 MAXIMUM AVERAGE FORWARD CURRENT DERATING

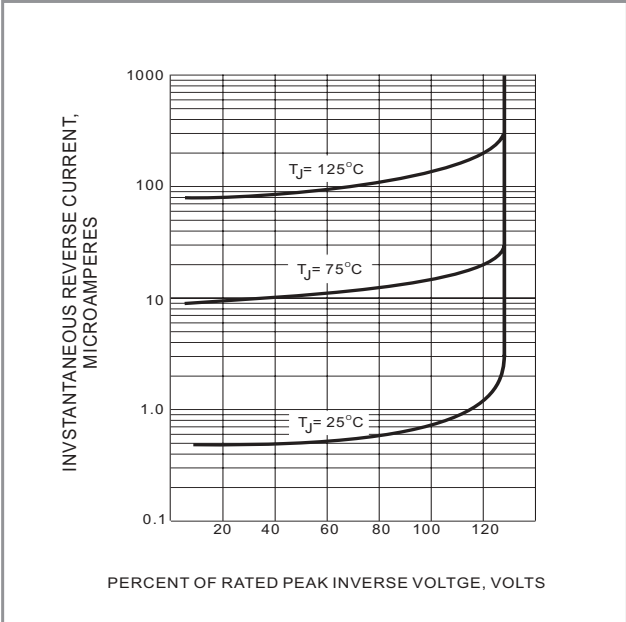


FIG. 3 TYPICAL REVERSE CHARACTERISTICS

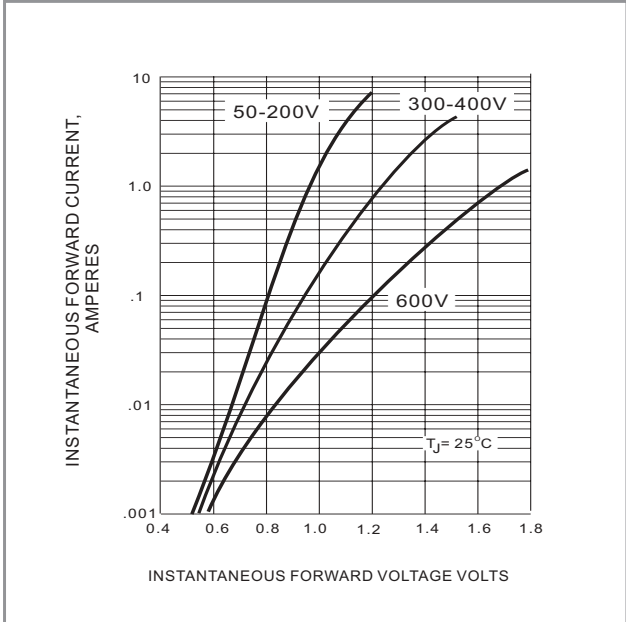


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

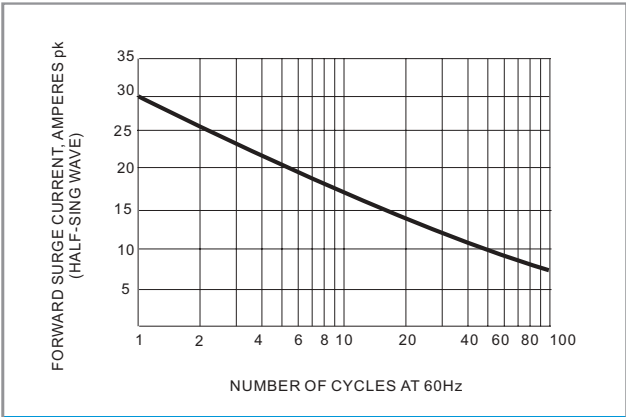


FIG. 5 MAXIMUM NON-REPETITIVE SURGE CURRENT