

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

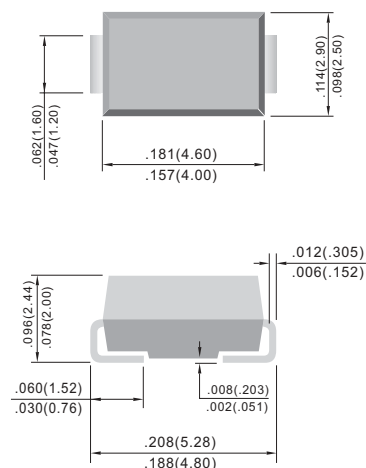
Case: JEDEC DO-214AC molded plastic

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 $T_L=120^{\circ}C$	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 $T_a=25^{\circ}C$ at Rated DC Blocking Voltage $T_a=100^{\circ}C$	I_R	5.0 150							μA
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							$^{\circ}C / W$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-50 TO +150							$^{\circ}C$

NOTES:

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

RATING AND CHARACTERISTIC CURVES

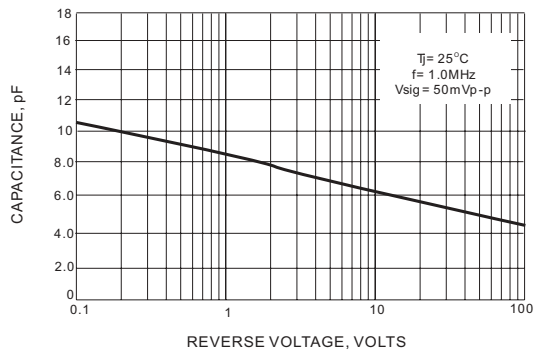


FIG.1 TYPICAL JUNCTION CAPACITANCE

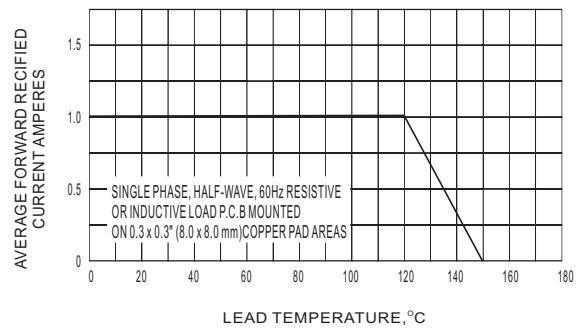


FIG.2 MAXIMUM AVERAGE FORWARD CURRENT DERATING

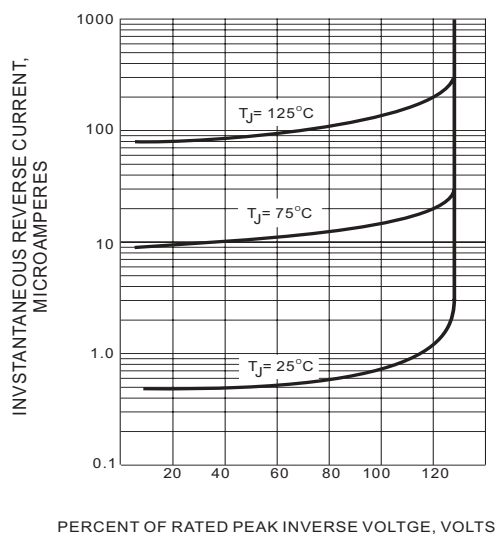


FIG.3 TYPICAL REVERSE CHARACTERISTICS

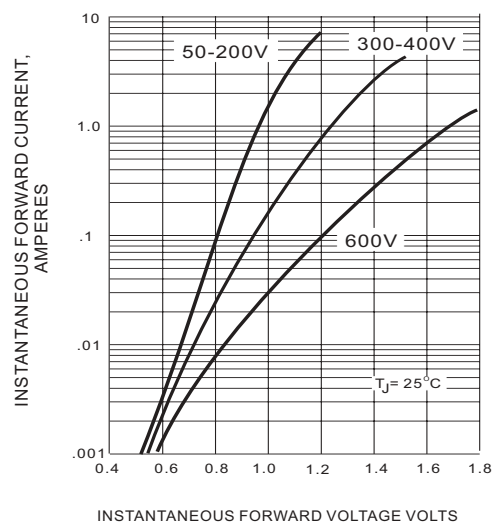


FIG.4 TYPICAL FORWARD CHARACTERISTICS

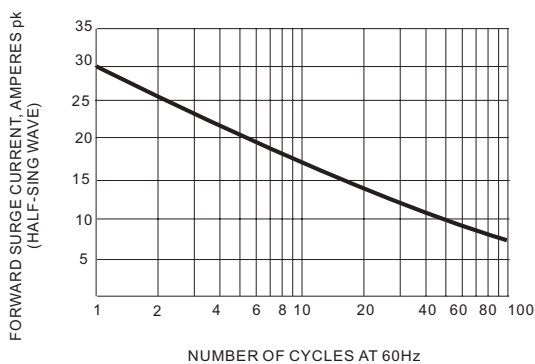


FIG.5 MAXIMUM NON-REPEITIVE SURGE CURRENT