

ES1A THRU ES1J

SURFACE MOUNT SUPERFAST RECTIFIER
VOLTAGE - 50 - 600 Volts CURRENT - 1.0 Ampere

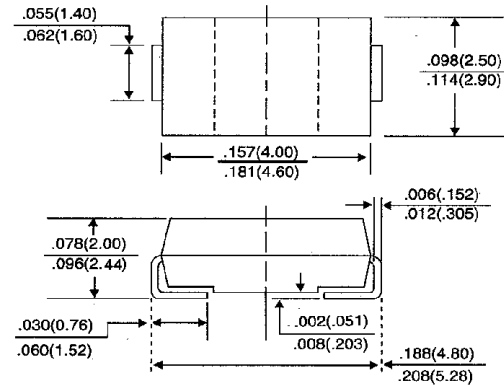
FEATURES

- 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
- High temperature soldering:
260°C/10 seconds at terminals

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 ounces, 0.064 gram

SMA/DO-214AC



Dimensions in inches and (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 current by 20%.

	SYMBOLS	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	VRMS	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	VDC	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at TL = 120°C	IAV	1.0							Amps
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	30.0							Amps
Maximum Instantaneous Forward Voltage at 1.0A	VF	0.95				1.25		1.7	Volts
Maximum DC Reverse Current TA = 25°C at Rated DC Blocking Voltage TA = 100°C	IR	5.0 100							µA
Maximum Reverse Recovery Time (NOTE 1)	TRR	35.0							Ns
Typical Junction Capacitance (NOTE 2)	CJ	10.0							pf
Typical Thermal Resistance (NOTE 3)	ROJL	35							°C/W
Operating and Storage Temperature Range	TJ, TSTG	-50 to +150							°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.
3. 8.0mm² (.013mm thick) land areas.

RATING AND CHARACTERISTIC CURVES ES1A THRU ES1J

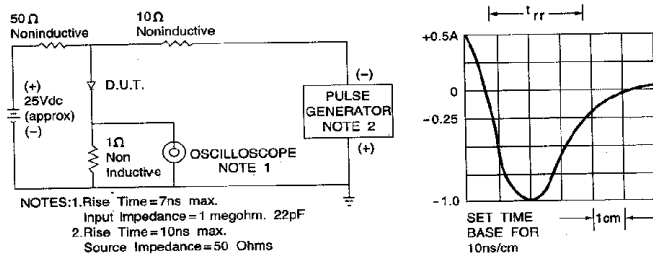


Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC
AND TEST CIRCUIT DIAGRAM ES1A THRU ES1G

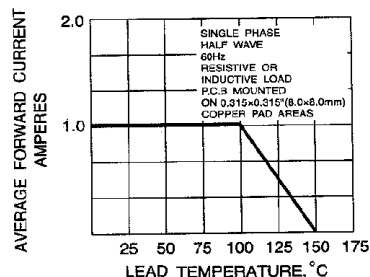


Fig. 2 - MAXIMUM AVERAGE
FORWARD CURRENT RATING

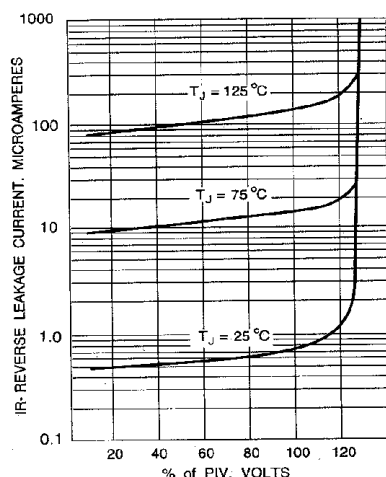


Fig. 3 - TYPICAL REVERSE CHARACTERISTICS

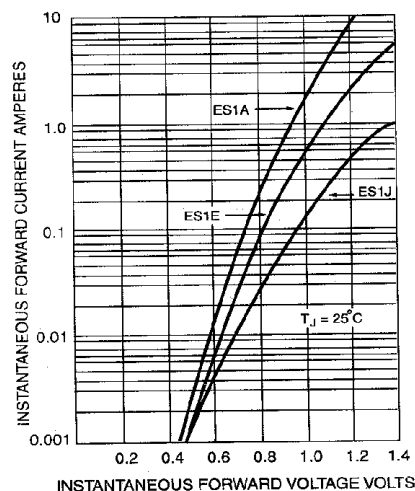


Fig. 4 - TYPICAL FORWARD CHARACTERISTICS

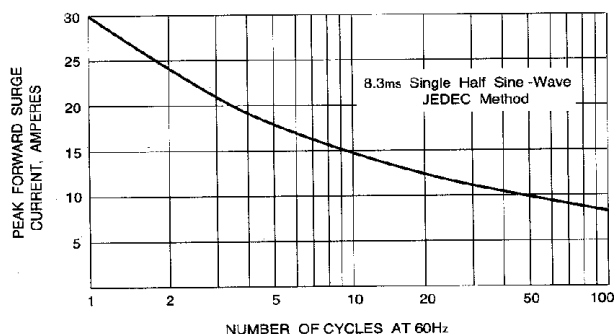


Fig. 5 - MAXIMUM NON-REPETITIVE SURGE CURRENT

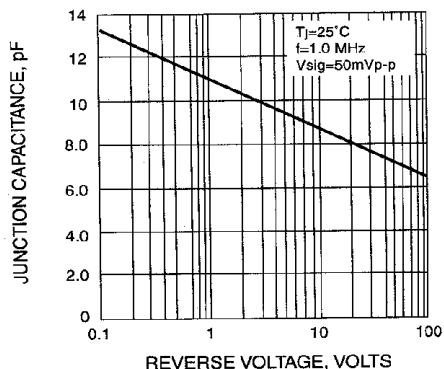


Fig. 6 - TYPICAL JUNCTION CAPACITANCE