

ES1A THRU ES1J

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

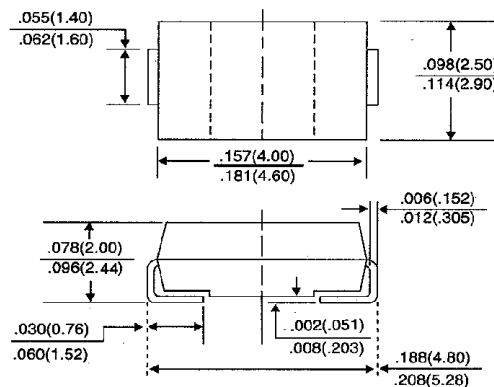
FEATURES

- 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	V _{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T _L = 120°C	I _(AV)	1.0							Amps
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30.0							Amps
Maximum Instantaneous Forward Voltage at 1.0A	V _F	0.95			1.25		1.7		Volts
Maximum DC Reverse Current T _A = 25°C at Rated DC Blocking Voltage T _A = 100°C	I _R	5.0 100							μA
Maximum Reverse Recovery Time (NOTE 1)	T _{RR}	35.0							Ns
Typical Junction Capacitance (NOTE 2)	C _J	10.0							pf
Typical Thermal Resistance (NOTE 3)	RθJL	35							°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-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

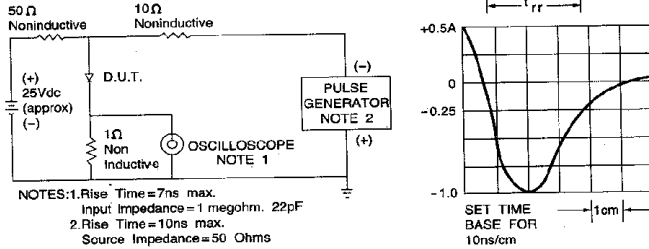


Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM ES1A THRU ES1J

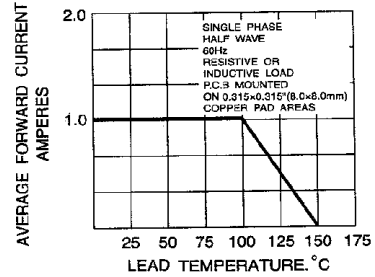


Fig. 2 - MAXIMUM AVERAGE FORWARD CURRENT RATING

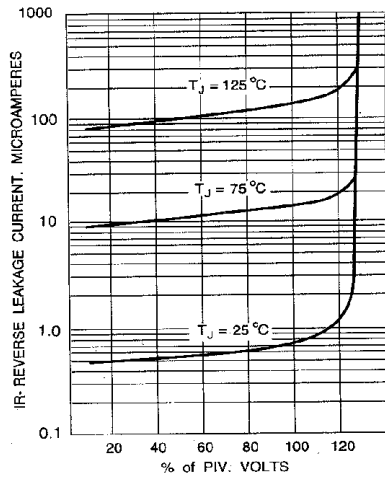


Fig. 3 - TYPICAL REVERSE CHARACTERISTICS

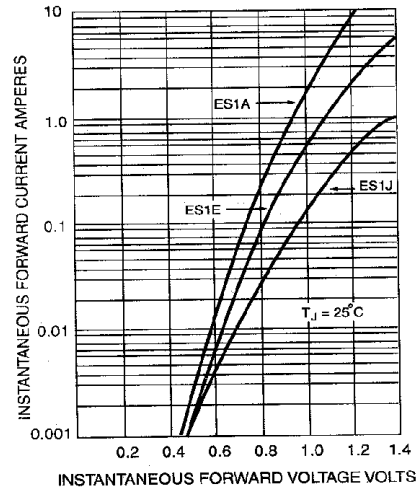


Fig. 4 - TYPICAL FORWARD CHARACTERISTICS

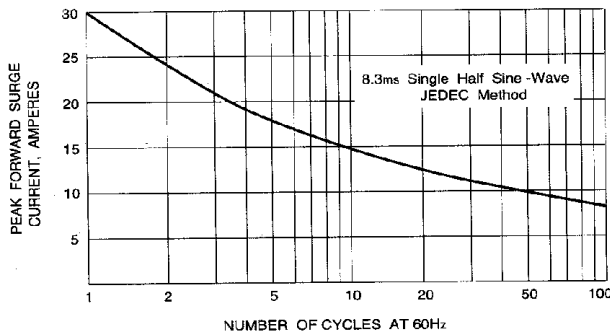


Fig. 5 - MAXIMUM NON-REPETITIVE SURGE CURRENT

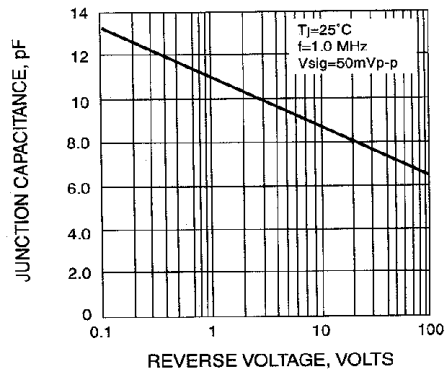


Fig. 6 - TYPICAL JUNCTION CAPACITANCE