

ES1A THRU ES1J

1.0 AMP SURFACE MOUNT SUPER FAST RECTIFIERS



FEATURES

- * Ideal for surface mount applications
- * Easy pick and place
- * Built-in strain relief
- * Super fast recovery time for high speed switching

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Metallurgically bonded construction
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 0.063 gram

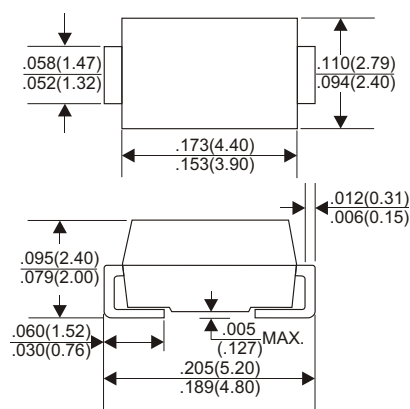
VOLTAGE RANGE

50 to 400 Volts

CURRENT

1.0 Ampere

DO-214AC(SMA)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

TYPE NUMBER	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	600	V
Maximum RMS Voltage	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at T _L =110°C	1.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
Maximum Instantaneous Forward Voltage at 1.0A	0.95				1.25		1.7	V
Maximum DC Reverse Current Ta=25°C	5.0							μA
at Rated DC Blocking Voltage Ta=100°C	500							μA
Maximum Reverse Recovery Time (Note 1)	35							nS
Typical Junction Capacitance (Note 2)	10							pF
Operating and Storage Temperature Range T _J , T _{stg}	-65 — +150							°C

NOTES:

1. Reverse Recovery Time test condition: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

RATING AND CHARACTERISTIC CURVES (ES1A THRU ES1J)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

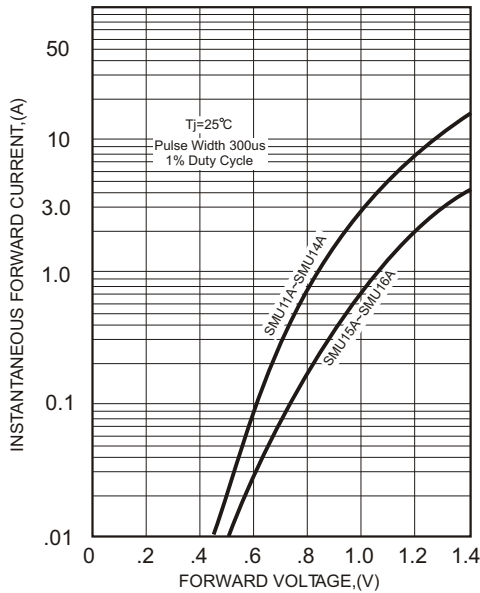


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

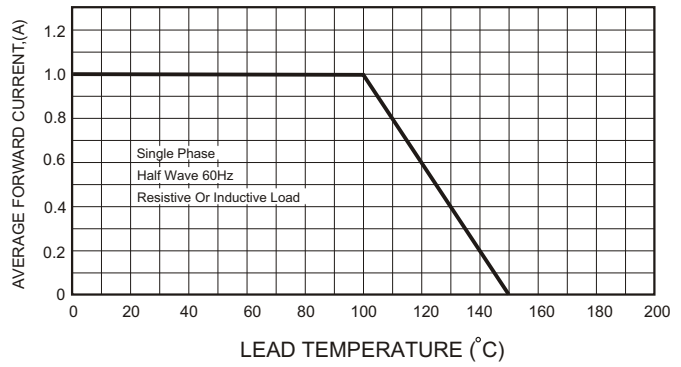


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

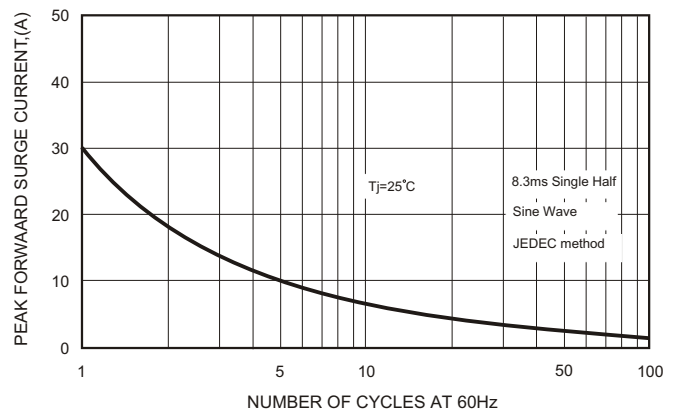
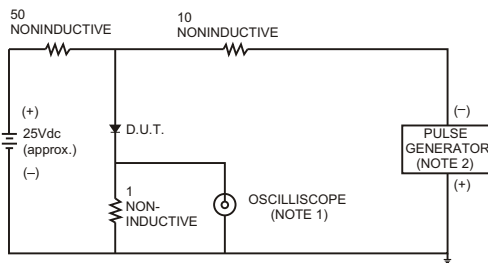


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time = 7ns max., Input Impedance = 1 megohm, 22pF.
2. Rise Time = 10ns max., Source Impedance = 50 ohms.

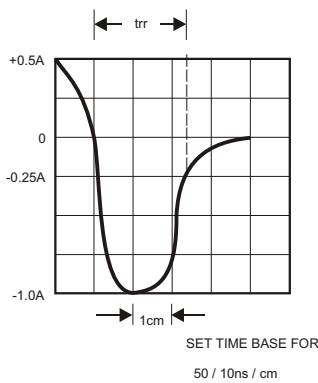


FIG.5-TYPICAL JUNCTION CAPACITANCE

