

ES3A THRU ES3J

SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER

REVERSE VOLTAGE: 50 to 600 VOLTS

FORWARD CURRENT: 3.0 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-0
- High temperature soldering : 260°C /10 seconds at terminals

MECHANICAL DATA

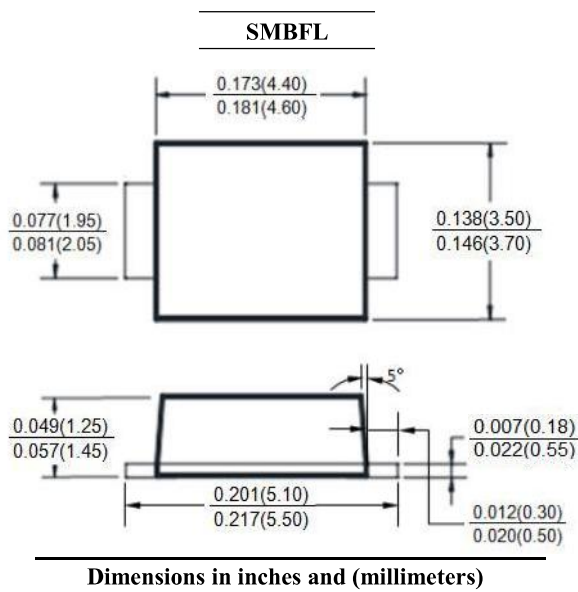
Case: Molded plastic, SMBFL

Terminals: Pure tin plated, lead free

Polarity: Indicated by cathode band

Packaging: 12mm tape per EIA STD RS-481

Weight: 0.060 gram



Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	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 =100℃	I _(AV)	3.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	100							Amp
Maximum Forward Voltage at 3.0A	V _F	0.95				1.30		1.70	Volts
Maximum Reverse Current at T _A =25℃ at Rated DC Blocking Voltage T _A =125℃	I _R	5.0 500							μAmp
Typical Junction Capacitance (Note 1)	C _J	45							pF
Typical Thermal Resistance (Note 2)	R _{θJL}	20							℃/W
Maximum Reverse Recovery Time (Note 3)	T _{RR}	35							nS
Operating Junction Temperature Range	T _J	-55 to +150							℃
Storage Temperature Range	T _{stg}	-55 to +150							℃

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to lead mounted on P.C.B. with 0.4 x 0.4" (10.0 x 10.0mm) copper pad areas

3- Reverse Recovery Test Conditions: I_F=.5A, I_R=1A, I_{RR}=.25A.

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RATINGS AND CHARACTERISTIC CURVES

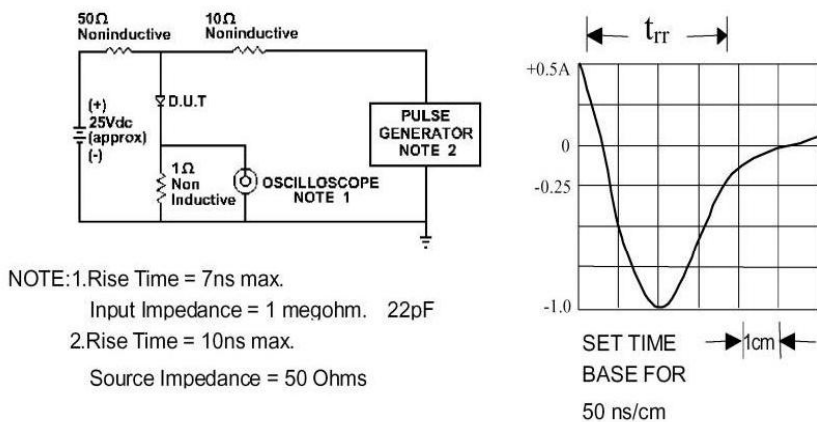


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

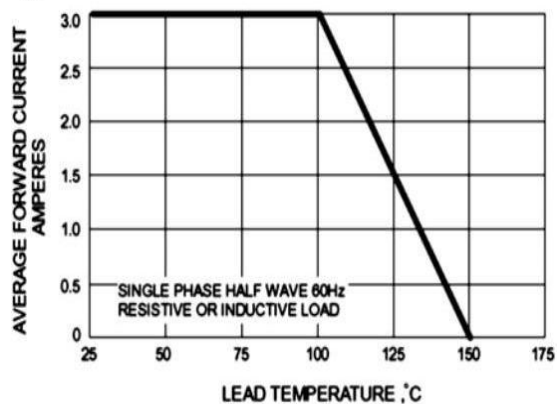


Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

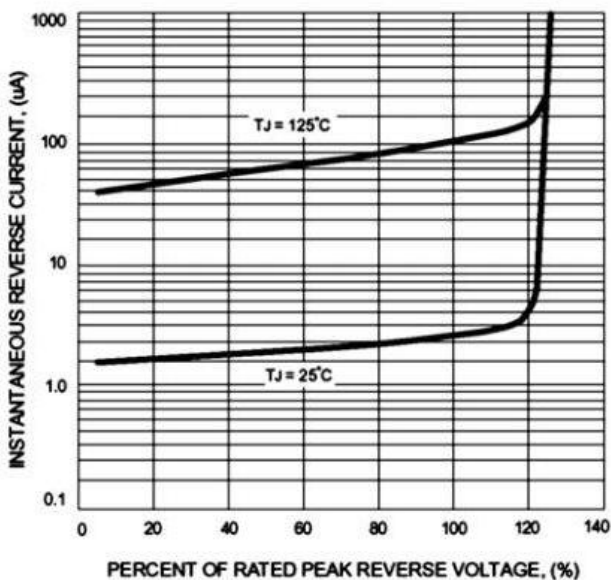


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

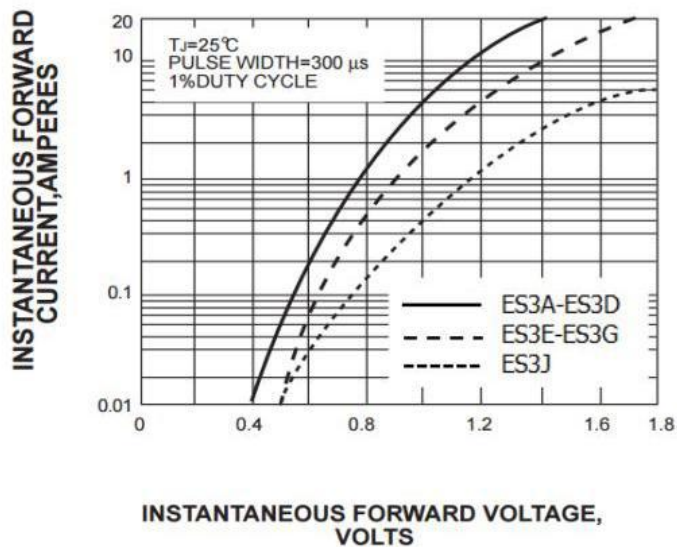


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

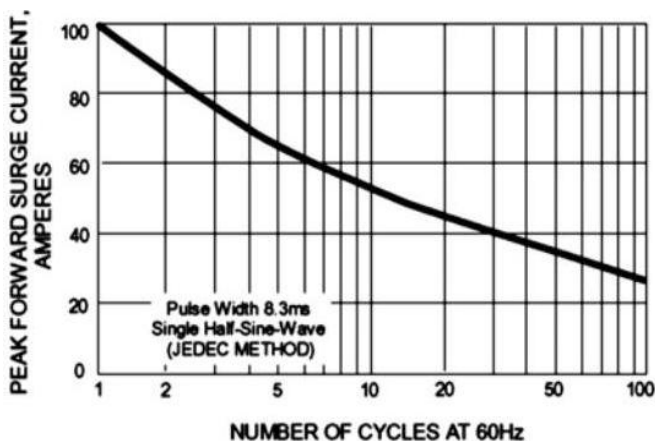


Fig. 5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

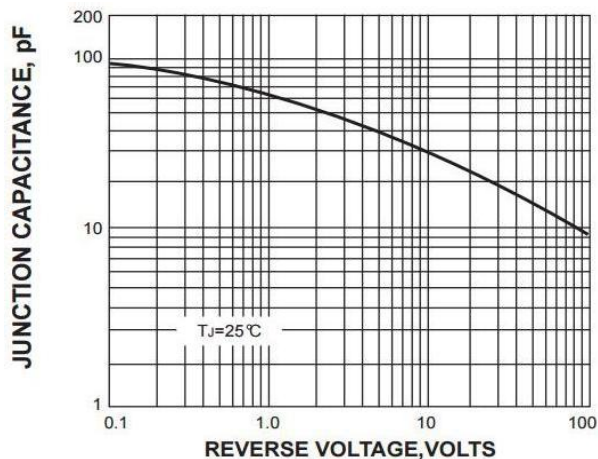


Fig. 6-TYPICAL JUNCTION CAPACITANCE