

## ES07A THRU ES07J

### 1.0 AMP. SURFACE MOUNT GENERAL PURPOSE SUPER FAST RECTIFIERS

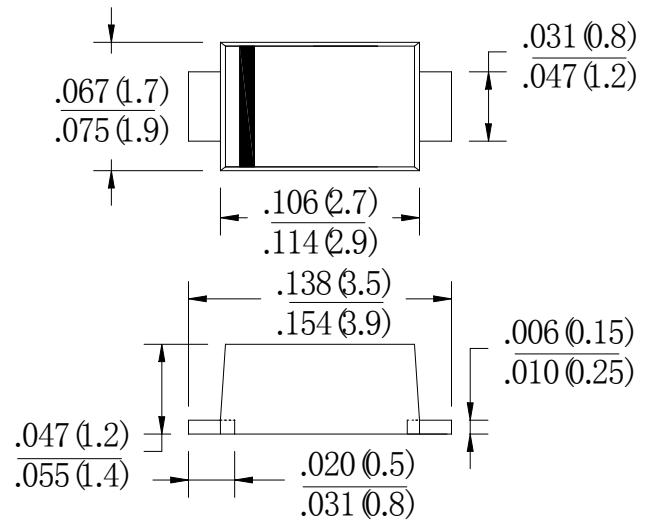
#### FEATURES

- Glass passivated device
- Ideal for surface mouted applications
- Low reverse leakage
- Metallurgically bonded construction
- Superfast recovery time for high efficiency
- High temperature soldering guaranteed:  
250°C/10 seconds at terminals.

#### MECHANICAL DATA

- Case: JEDEC SOD-123FL,molded plastic over passivated chip
- Terminals:Solder Plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.006 ounces, 0.02 gram
- Mounting position: Any

#### SOD-123FL



Dimensions in millimeters

### 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%.

Type Number	SYM BOL	ES07A	ES07B	ES07D	ES07G	ES07J	units
	marking	EA	EB	ED	EG	EJ	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	V
Maximum Average Forward rectified Current	$I_{F(AV)}$	1.0					A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$	25					A
Maximum Instantaneous forward Voltage at 1.0 A DC	$V_F$	0.95			1.3	1.7	V
Maximum DC Reverse Current @ $T_J=25^\circ\text{C}$ at rated DC blocking voltage @ $T_J=125^\circ\text{C}$	$I_R$	5.0					$\mu\text{A}$
		100.0					
Maximum Reverse Recovery Time (Note 2)	$t_{rr}$	35					nS
Typical Junction Capacitance (Note 3)	$C_J$	20			10		pF
Typical thermal resistance (Note 4)	$R_{(JA)}$	180					$^\circ\text{C}/\text{W}$
Storage Temperature Range	$T_{STG}$	-55 to +150					$^\circ\text{C}$
Operation Temperature Range	$T_J$	-55 to +150					$^\circ\text{C}$

**Note:** 1. Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

2. Measured at 1MHz and applied reverse voltage of 4.0 volts d.c.

3. Measured on P.C.Board with  $0.2 \times 0.2'' (5.0 \times 5.0\text{mm})$  Copper Pad Areas

**RATING AND CHARACTERISTIC CURVES (ES07A THRU ES07J)**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

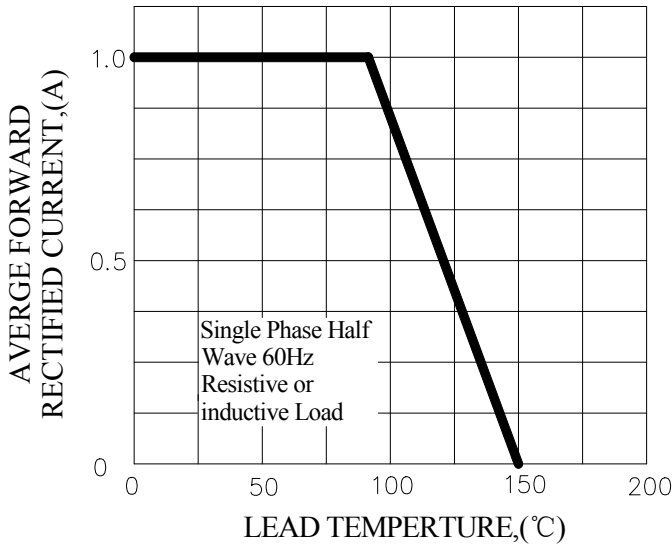


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

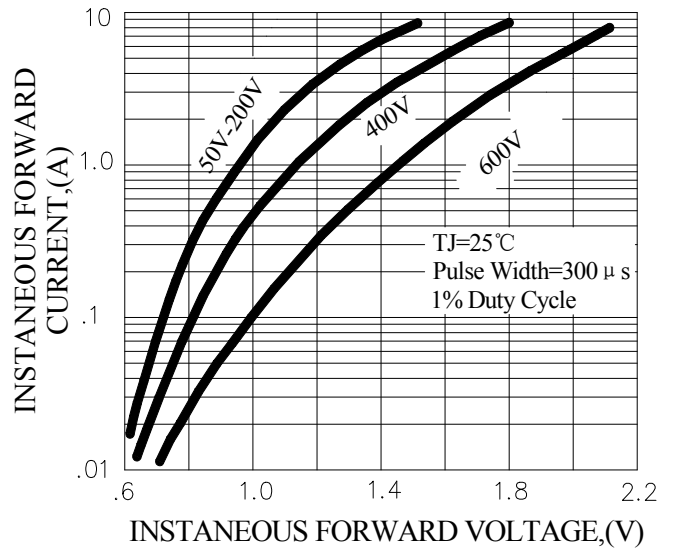


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

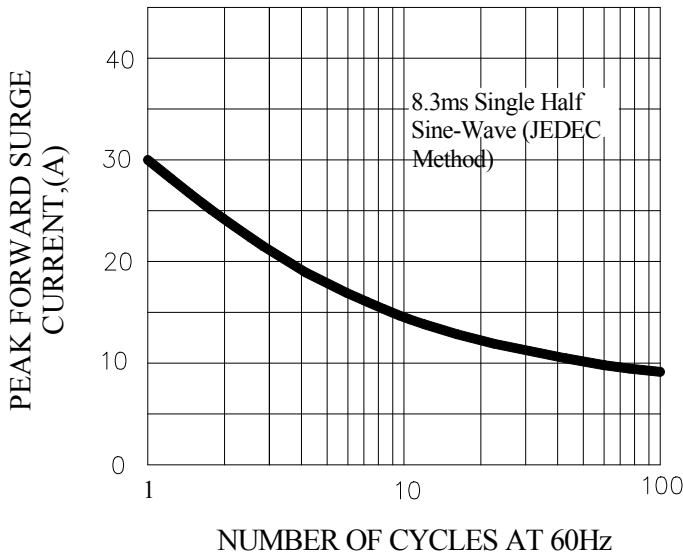


FIG.4-TYPICAL REVERSE CHARACTERISTICS

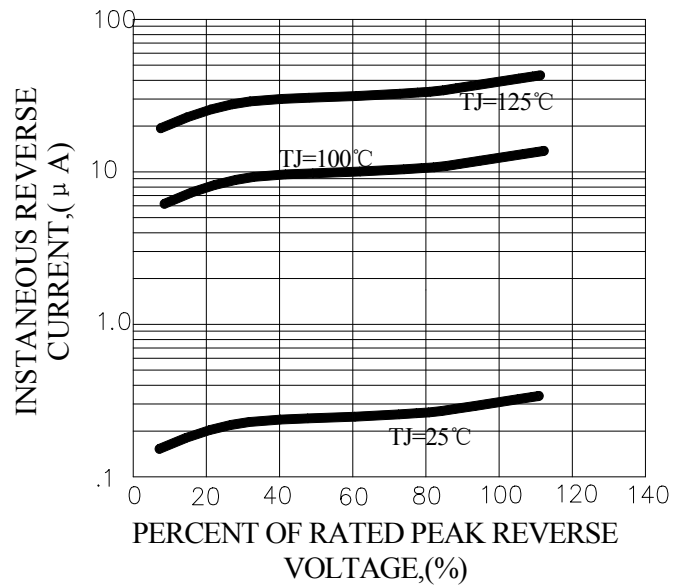
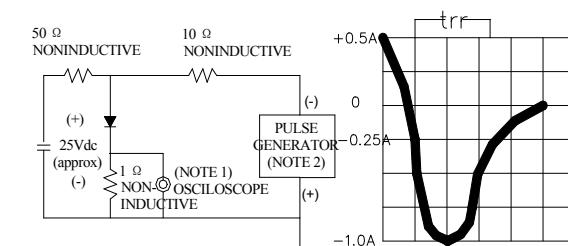


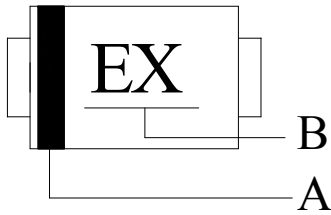
FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

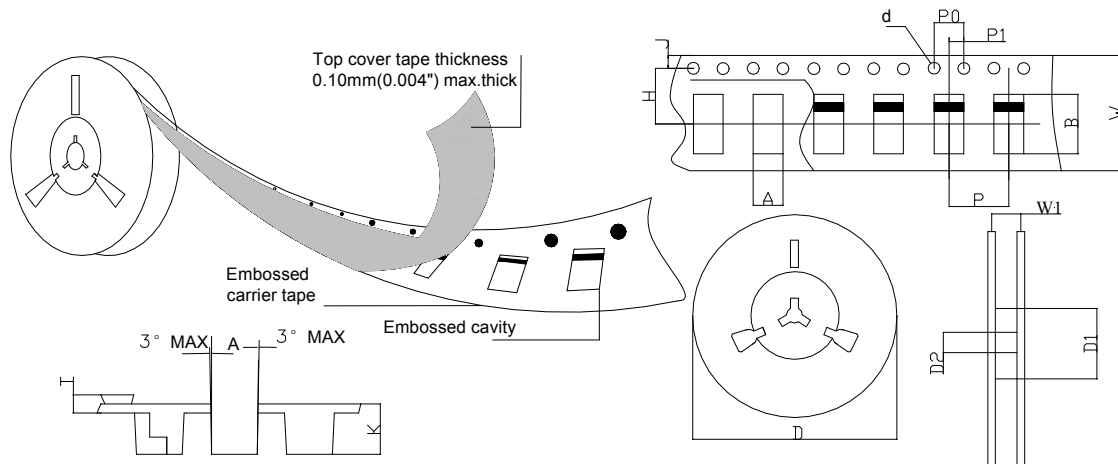
## Marking and packaging illustration

### 1、Marking



SYMBOL	Explanation
<b>A</b>	<b>Color Band Denotes Cathode</b>
<b>B</b>	<b>Product Name</b>

### 2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE
SYMBOL		SOD-123FL
ITEM		
Carrier width	A	2.1(0.083)Max
Carrier length	B	4.0(0.157)Max
Sprocket hole	d	ø1.55(0.061)Typ
Reel outer diameter	D	177.8(7)Typ
Reel inner diameter	D1	50.0(1.969)Min
Feed hole diameter	D2	13.0(0.512)Typ
Sprocket hole position	J	1.75(0.069)Typ
Punch hole position	H	3.50(0.138)Typ
Carrier depth	K	1.60(0.063)Typ
Punch hole pitch	P	4.00(0.157)Typ
Sprocket hole pitch	P0	4.00(0.157)Typ
Embossment center	P1	2.00(0.079)Typ
Overall tape thickness	T	0.25(0.098)Typ
Tape width	W	8.15(0.321)Typ
Reel width	W1	10.5(0.413)Min

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