

ES07A THRU ES07J

1.0 AMP. SURFACE MOUNT GENERAL PURPOSE SUPER FAST RECTIFIERS

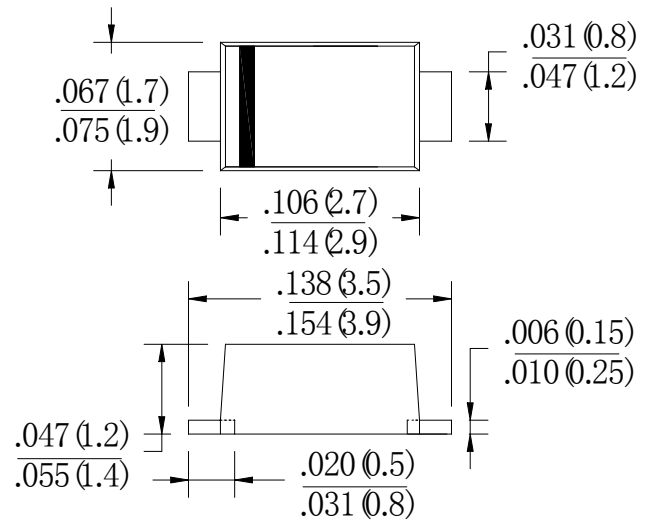
FEATURES

- 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 | | | | | μA |
| | | 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

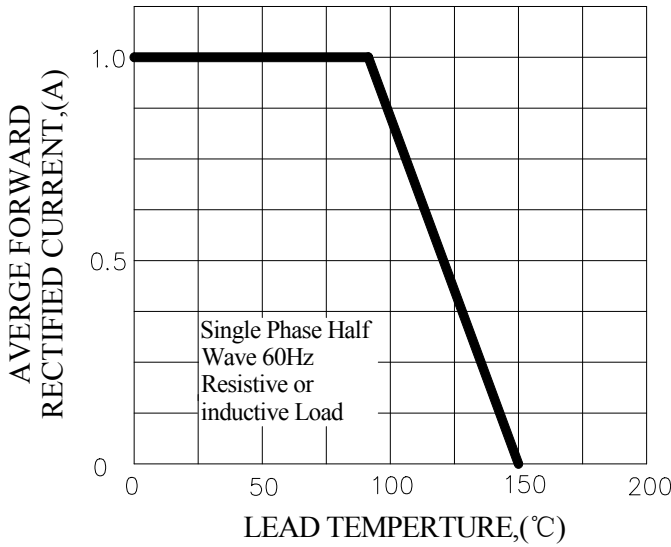


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

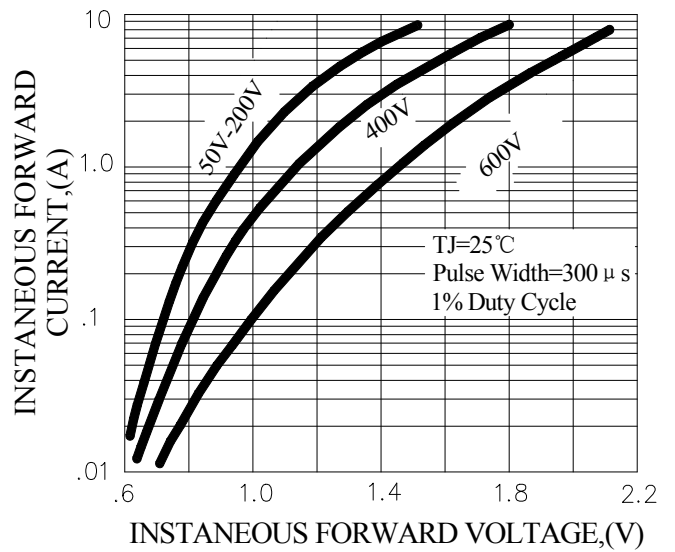


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

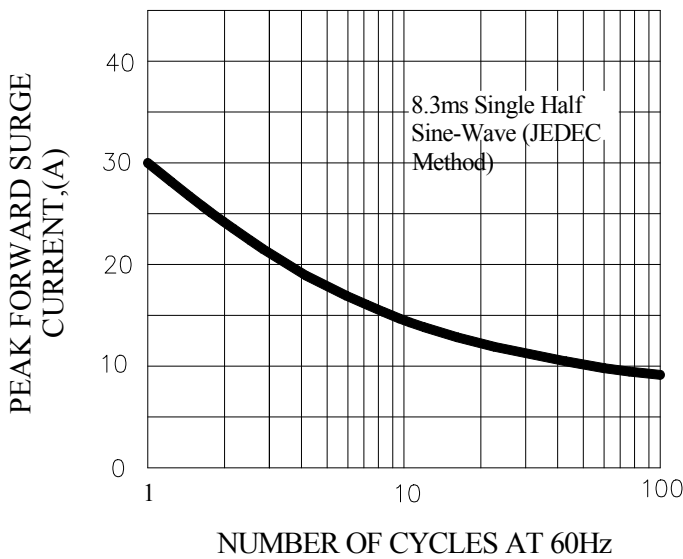


FIG.4-TYPICAL REVERSE CHARACTERISTICS

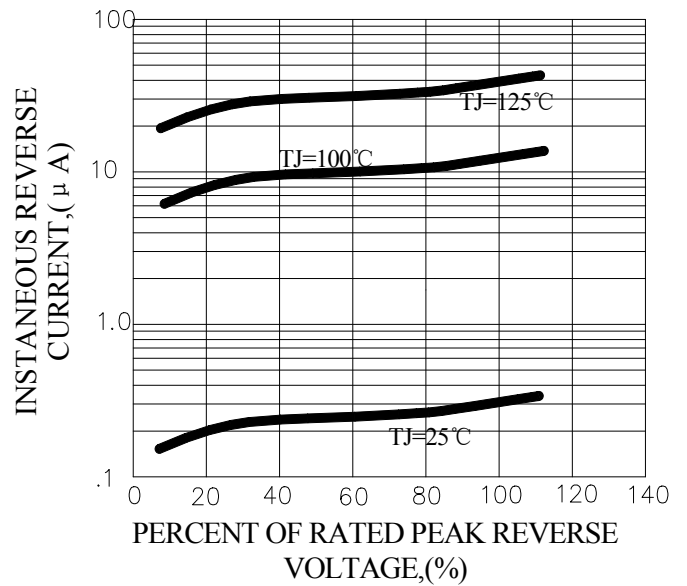
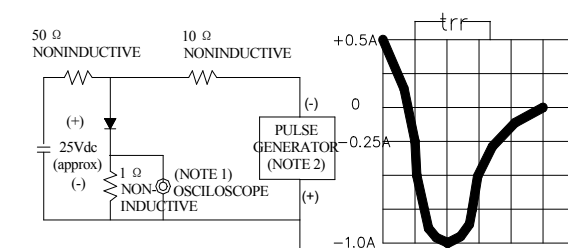


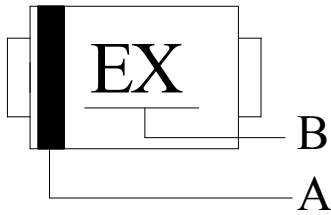
FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

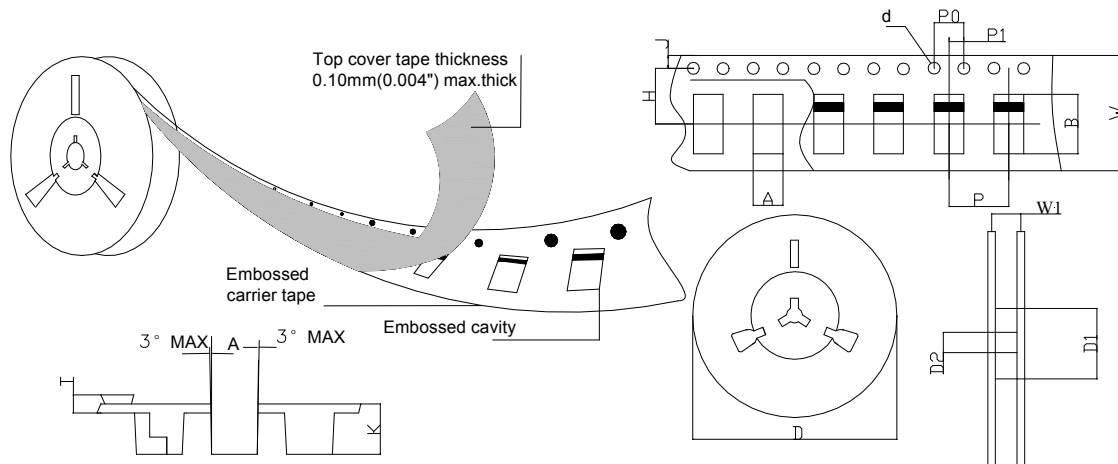
Marking and packaging illustration

1、Marking



| SYMBOL | Explanation |
|----------|-----------------------------------|
| A | Color Band Denotes Cathode |
| B | Product Name |

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 |