

## ES3JGB

### 3.0AMPS. SUPER FAST SURFACE MOUNT RECTIFIER

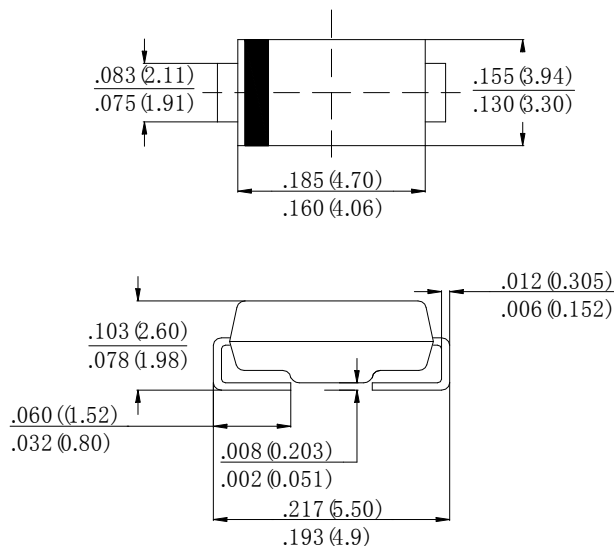
#### FEATURE

- . High current capability
- . Low forward voltage drop
- . Low power loss, high efficiency
- . High surge capability
- . High temperature soldering guaranteed  
260°C/10 seconds at terminals.
- . Superfast recovery time for high efficiency
- . For surface mounted application.
- . Easy pick and place.

#### MECHANICAL DATA

- . Case: Molded plastic
- . Epoxy: UL94V-0 rate flame retardant
- . Lead: MIL-STD- 202E, Method 208 guaranteed
- . Polarity: Color band denotes cathode end
- . Packaging: 12mm tape per EIA STD RS-481
- . Mounting position: Any

#### SMB (DO-214AA)



Dimensions in inches and (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<br>BOL  | ES3JGB       | units |
|--------------------------------------------------------------------------------------------------|-------------|--------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                           | $V_{RRM}$   | 600          | V     |
| Maximum RMS Voltage                                                                              | $V_{RMS}$   | 420          | V     |
| Maximum DC blocking Voltage                                                                      | $V_{DC}$    | 600          | V     |
| Maximum Average Forward Rectified Current                                                        | $I_{F(AV)}$ | 3.0          | A     |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$   | 90.0         | A     |
| Maximum Forward Voltage at 3.0A DC                                                               | $V_F$       | 1.7          | V     |
| Maximum DC Reverse Current @TJ=25°C<br>at rated DC blocking voltage @TJ=125°C                    | $I_R$       | 5.0<br>100.0 | μA    |
| Maximum Reverse Recovery Time (Note 1)                                                           | $t_{rr}$    | 35           | nS    |
| Typical Junction Capacitance (Note 2)                                                            | $C_J$       | 24           | pF    |
| Typical Thermal Resistance (Note 3)                                                              | $R_{(JA)}$  | 55           | °C /W |
| Storage Temperature                                                                              | $T_{STG}$   | -55 to +150  | °C    |
| Operation Junction Temperature                                                                   | $T_J$       | -55 to +150  | °C    |

#### Note:

1. Reverse Recovery test Condition:  $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. P.C.B.Mounted on 0.2×0.2" (5.0×5.0mm) Copper Pad Area.

## RATING AND CHARACTERISTIC CURVES (ES3JGB)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

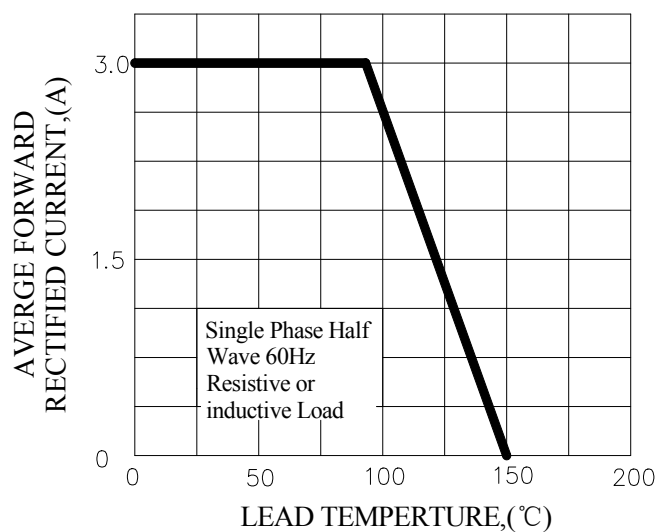


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

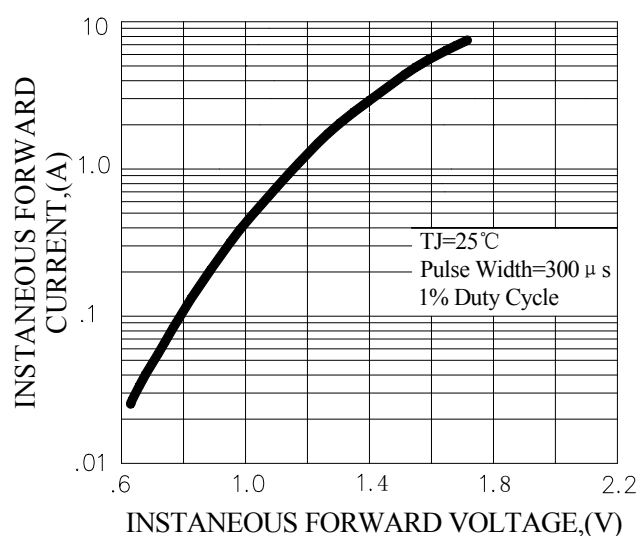


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

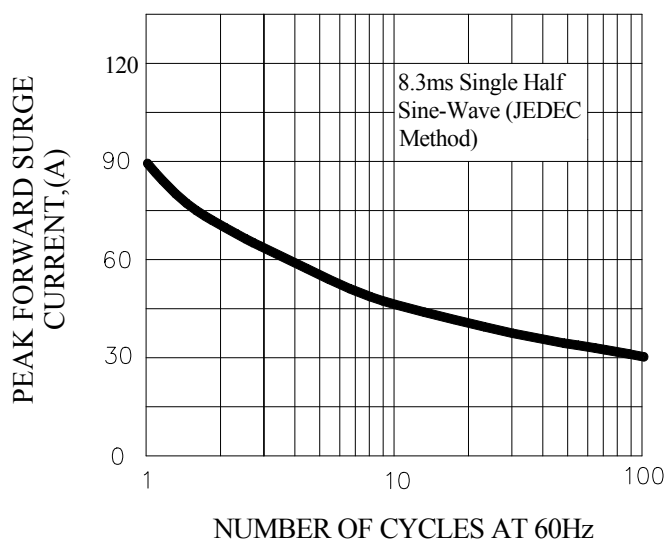


FIG.4-TYPICAL REVERSE CHARACTERISTICS

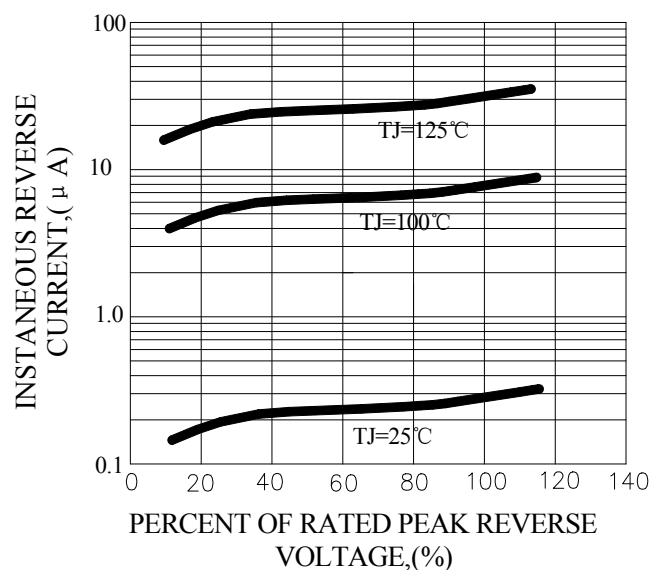
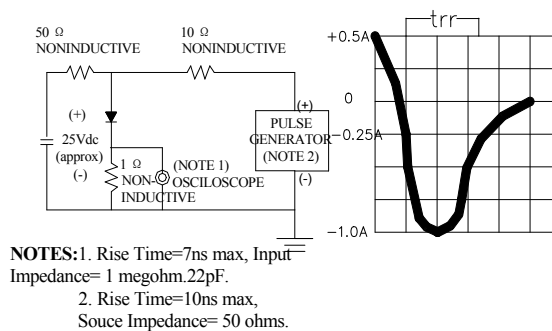
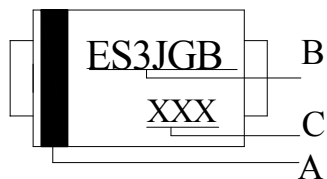


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



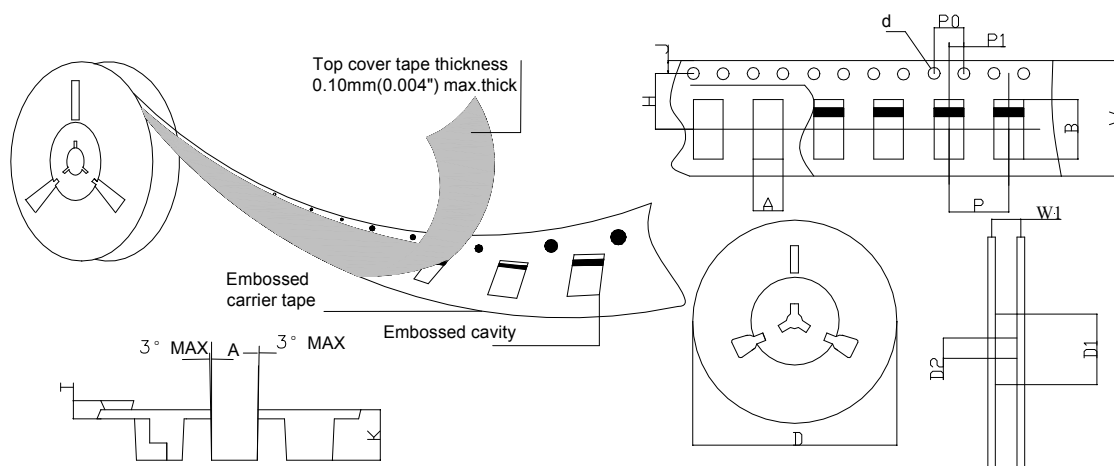
## Marking and packaging illustration

### 1、Marking



| SYMBOL   | Explanation                       |
|----------|-----------------------------------|
| <b>A</b> | <b>Color Band Denotes Cathode</b> |
| <b>B</b> | <b>Product Name</b>               |
| <b>C</b> | <b>Date Code</b>                  |

### 2、Packaging



| SPECIFICATIONS<br>mm(inch) |            | PACKAGE           | SPECIFICATIONS<br>mm(inch) |            | PACKAGE           |
|----------------------------|------------|-------------------|----------------------------|------------|-------------------|
| ITEM                       | SYM<br>BOL | SMB(DO-214<br>AA) | ITEM                       | SYM<br>BOL | SMB(DO-214A<br>A) |
| Carrier width              | A          | 3.81(0.150)Max    | Carrier depth              | K          | 2.45(0.965)Typ    |
| Carrier length             | B          | 5.41(0.213)Max    | Punch hole pitch           | P          | 8.00(0.315)Typ    |
| Sprocket hole              | d          | ø1.55(0.061)Typ   | Sprocket hole pitch        | P0         | 4.00(0.157)Typ    |
| Reel outer diameter        | D          | 330.0(13.0)Typ    | Embossment center          | P1         | 2.00(0.079)Typ    |
| Reel inner diameter        | D1         | 50.0(1.969)Min    | Overall tape thickness     | T          | 0.30(0.012)Typ    |
| Feed hole diameter         | D2         | 13.0(0.512)Typ    | Tape width                 | W          | 12.0(0.472)Typ    |
| Sprocket hole position     | J          | 1.75(0.069)Typ    | Reel width                 | W1         | 12.4(0.488)Min    |
| Punch hole position        | H          | 5.55(0.219)Typ    |                            |            |                   |