

## ES3DBF THRU ES3JBF

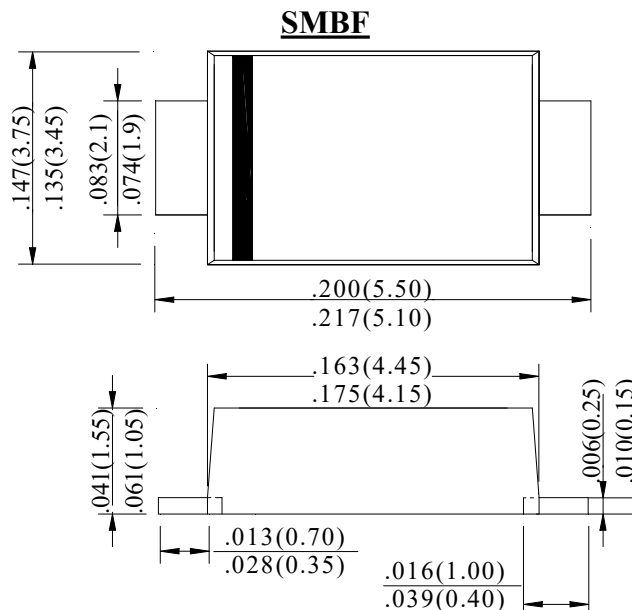
### 3.0AMPS. GLASS PASSIVATED SUPER FAST RECTIFIER

#### 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
- . Mounting position: Any



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 BOL	ES3DBF	ES3GBF	ES3JBF	units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	200	400	600	V
Maximum RMS Voltage	$V_{RMS}$	140	280	420	V
Maximum DC blocking Voltage	$V_{DC}$	200	400	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	$V_F$	0.95	1.3	1.7	V
Maximum DC Reverse Current @T <sub>J</sub> =25°C at rated DC blocking voltage @T <sub>J</sub> =125°C	$I_R$	5.0 200.0			μA
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	35			nS
Typical Junction Capacitance (Note 2)	$C_J$	50	25		pF
Typical Thermal Resistance (Note 3)	$R_{(JA)}$	60			°C /W
	$R_{(JL)}$	12			
	$R_{(JC)}$	15			
Storage Temperature	$T_{STG}$	-55 to +150			°C
Operation Junction Temperature	$T_J$	-55 to +150			°C

#### Note:

1. Reverse Recovery test Condition: If=0.5A,IR=1.0A,IRR=0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Measured on P.C.Board with 0.6×0.6"(15.0×15.0mm)Copper Pad Areas.

**RATING AND CHARACTERISTIC CURVES**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

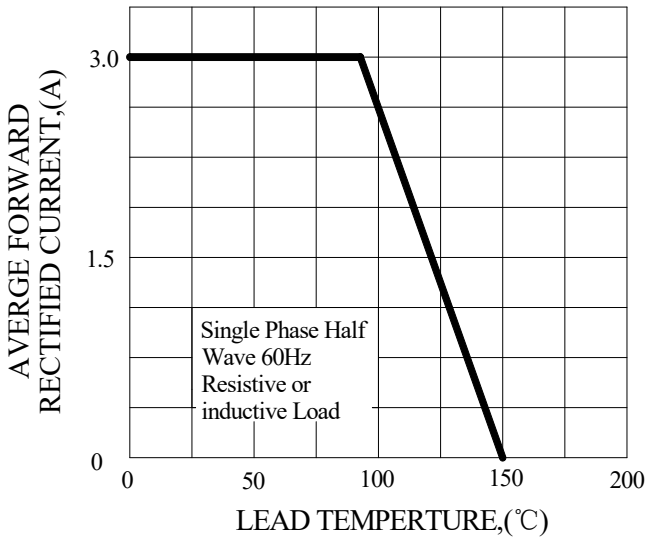


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

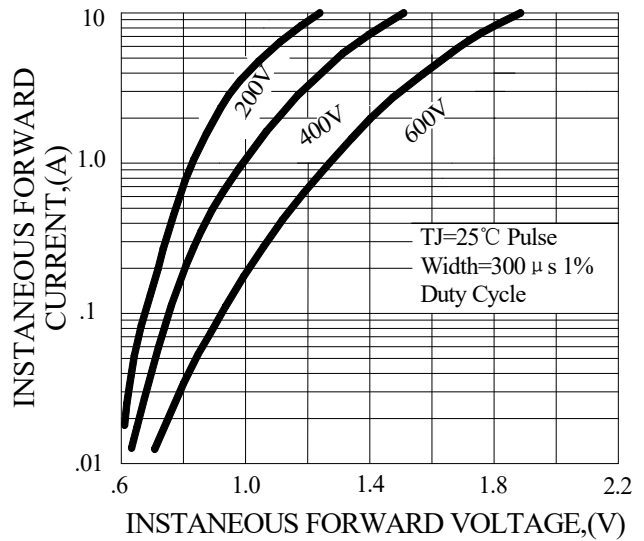


FIG.3-MAXIMUN NON-REPETITIVE FORWARD SURGE CURRENT

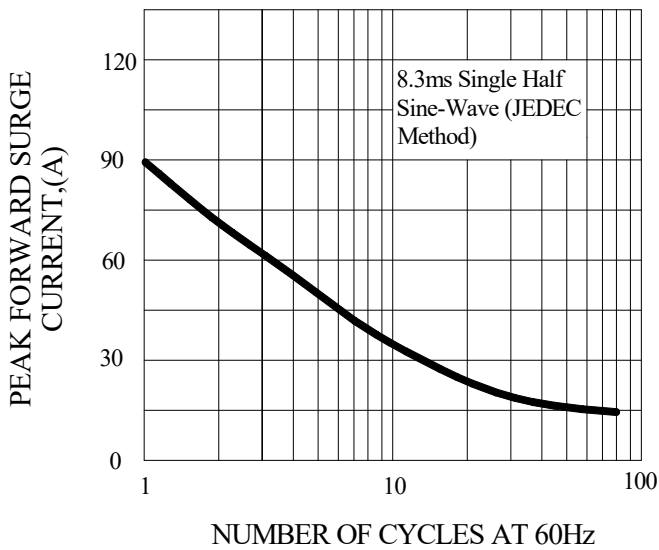


FIG.4-TYPICAL REVERSE CHARACTERISTICS

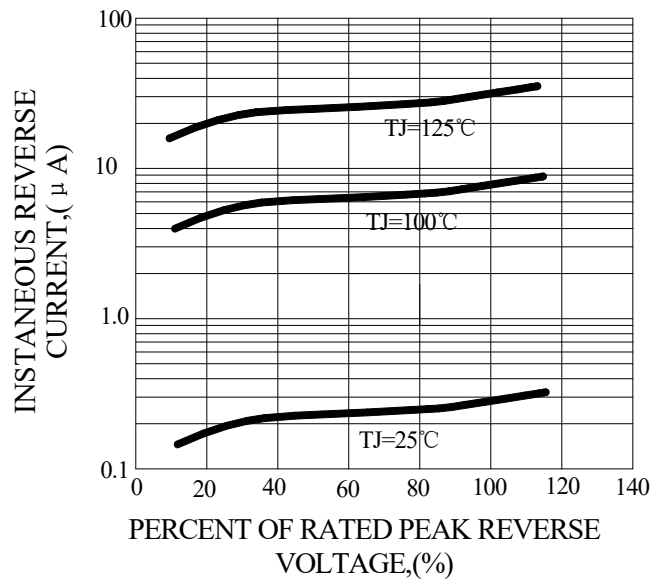
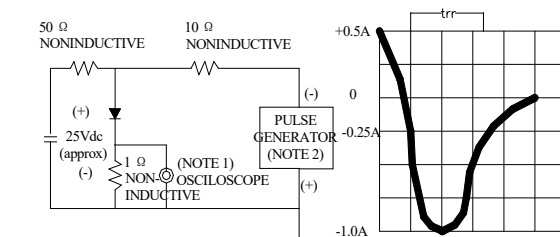


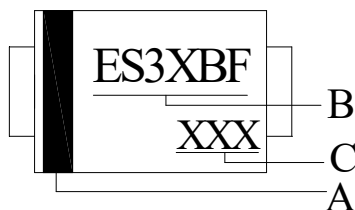
FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

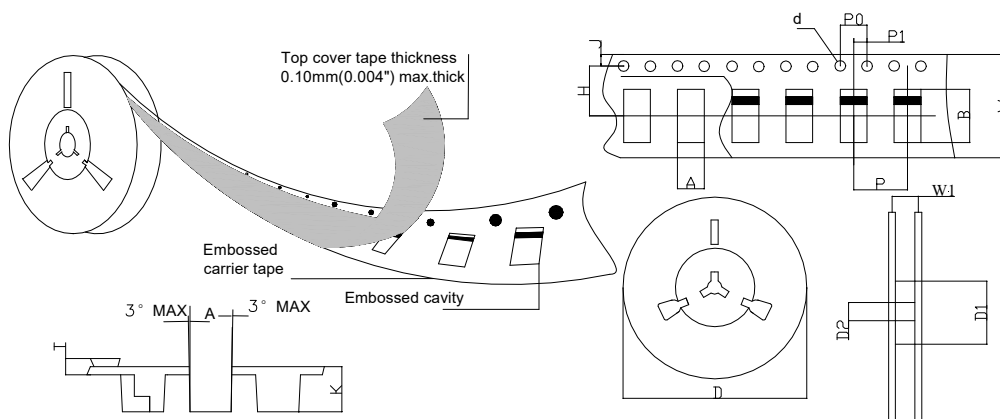
## Marking and packaging illustration

### 1、Marking



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

### 2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	SMBF	ITEM	SYM BOL	SMBF
Carrier width	A	3.81(0.150)Max	Carrier depth	K	1.6(0.063)Typ
Carrier length	B	5.61(0.221)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	153.0(6.02)Min	Overall tape thickness	T	0.30(0.012)Typ
Feed hole diameter	D2	77.0(3.03)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	5.50(0.216)Typ			