

## ES07DE

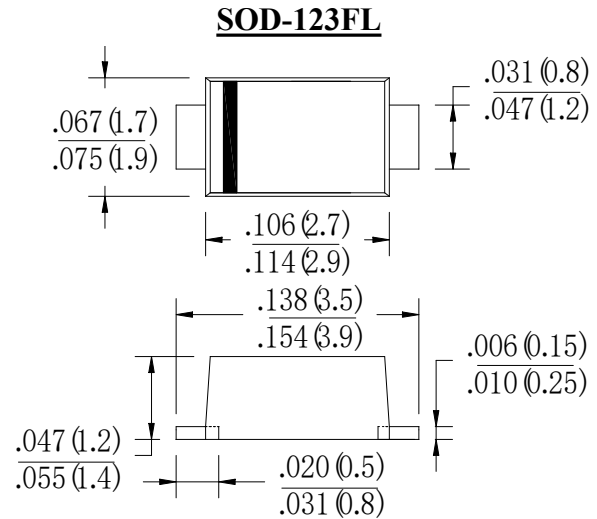
### 1.0AMP. SURFACE MOUNT SUPER FAST RECTIFIERS

#### FEATURES

- . Glass passivated device
- . Ideal for surface mounted applications
- . Low reverse leakage
- . Metallurgically bonded construction
- . Superfast recovery time for high efficiency
- . High temperature soldering guaranteed:  
260°C/10 seconds at terminals.

#### MECHANICAL DATA

- . Case: Molded plastic
- . Epoxy: UL94V-0 rate flame retardant(Halogen free)
- . Lead: MIL-STD- 202E, Method 208 guaranteed
- . Polarity:Color band denotes cathode end
- . Weight: 0.006 ounces, 0.02 gram
- . Mounting position: Any



Dimensions in millimeters

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

#### MAXIMUM RATINGS (T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	ES07DE	Units
	Marking	EDE	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	200	V
Maximum RMS Voltage	$V_{RMS}$	140	V
Maximum DC blocking Voltage	$V_{DC}$	200	V
Average Forward Rectified Current	$I_{F(AV)}$	1	A
Non-repetitive forward surge current, 8.3ms half sine-wave	$I_{FSM}$	25	A
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	35	nS
Typical Junction Capacitance (Note 2)	$C_J$	17	pF
Operation Junction Temperature and Storage Temperature	$T_J, T_{STG}$	-55 to + 150	°C

#### ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Units
Instantaneous Forward voltage at 1A	$V_F$	-----	0.86	0.95	V
		@T <sub>J</sub> =25°C			
		@T <sub>J</sub> =125°C	0.71	----	
reverse current at rated DC blocking voltage	$I_R$	-----	-----	5.0	uA
		@T <sub>J</sub> =25°C			
		@T <sub>J</sub> =125°C	-----	100.0	

#### THERMAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	ES07DE	Units
Typical Thermal Resistance (Note 3)	$R_{(JA)}$	180	°C/W
	$R_{(JL)}$	25	
	$R_{(JC)}$	20	

#### Note:

1. Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A
2. T<sub>J</sub>=25°C, V<sub>R</sub> = 4V<sub>DC</sub>@1Mhz
3. Measured on P.C.Board with 15.0mm\*15.0mm\*1.6mm Copper Pad Areas

**RATING AND CHARACTERISTIC CURVES (ES07DE)**

FIG.1-TYPICAL FORWARD CURRENT BERATING CURVE

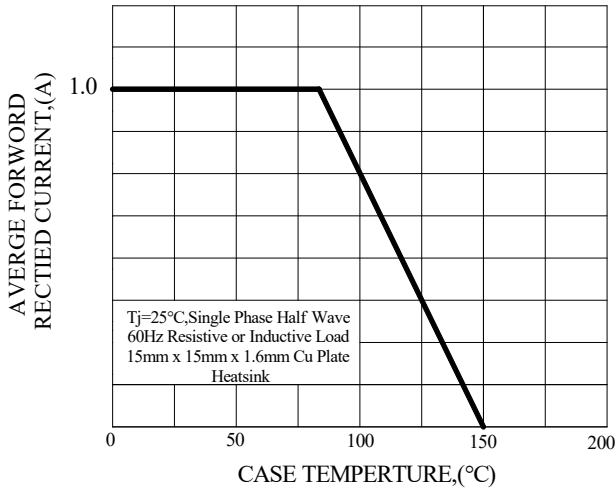


FIG.2-TYPICAL INSTANTENOUS FORWARD CHATAACTERISTICS

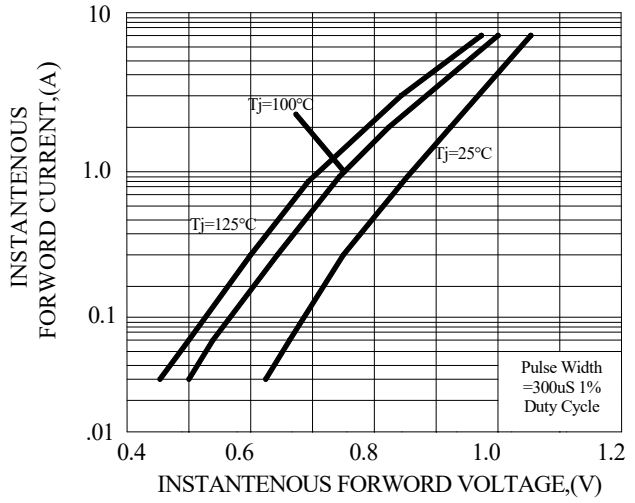


FIG.3-MAXIMUN NON-REPEITIVE FORWARD SURGE CURRENT

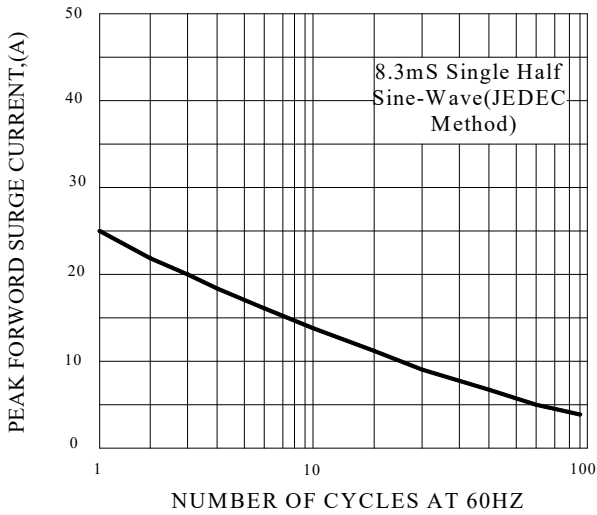


FIG.4-TYPICAL REVERSE CHATAACTERISTICS

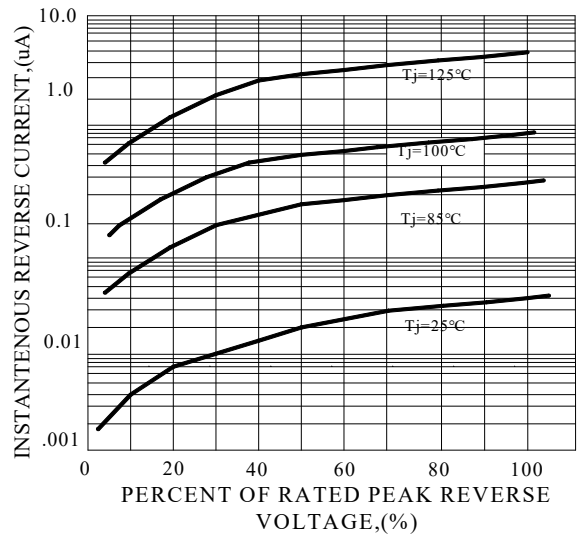
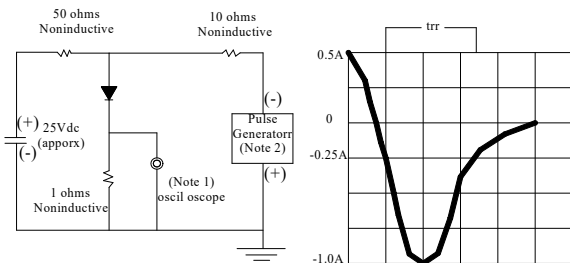
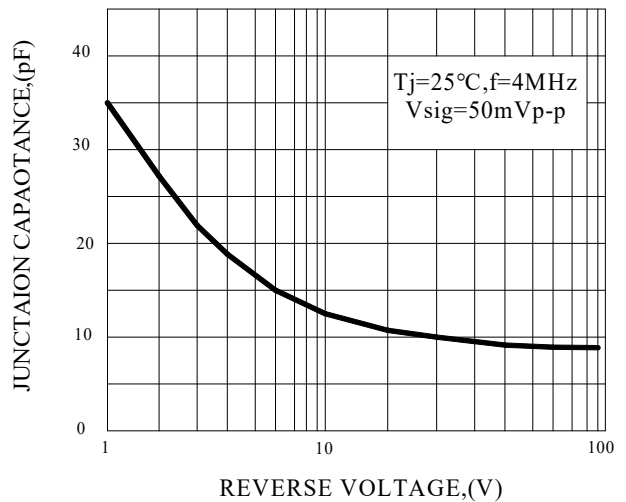


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



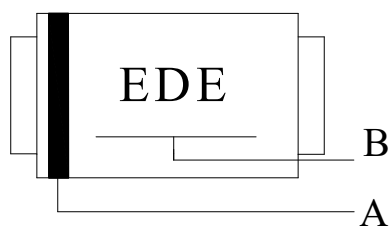
Notes: 1 Rise Time=7nS max,  
 Input Impedance=1mogohm,22pF  
 2 Rise Time=10nS max,  
 Soule Impedance= 50ohms

FIG.6-TYPIAL JUNCTION CAPAOTANCE



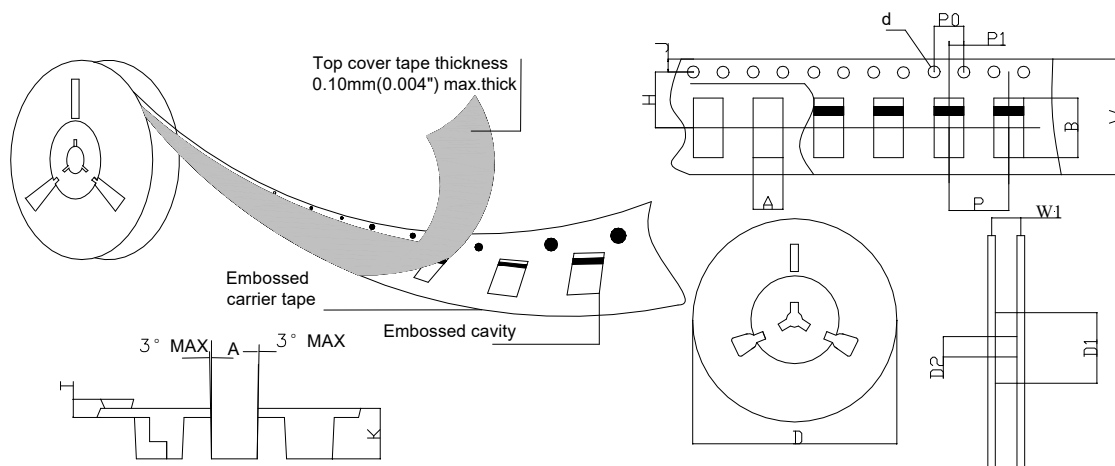
## Marking and packaging illustration

### 1、Marking



SYMBOL	Explanation
A	Color Band Denotes Cathode
B	Product Name

### 2、Packaging



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