

## ES1DGR THRU ES1JGR

### 1.0AMP. GLASS PASSIVATED SUPER FAST RECTIFIER

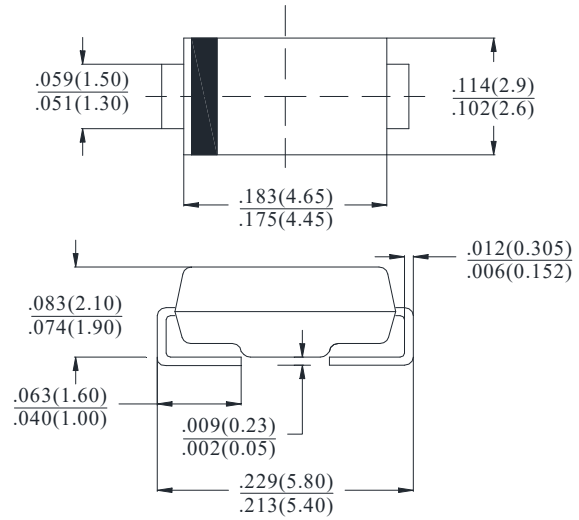
#### FEATURE

- . 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

- . Terminal: Solder plated
- . Case: Molded with UL-94 Class V-0 recognized  
Flame Retardant Epoxy
- . Polarity: color band denotes cathode

#### SMA (DO-214AC)



#### 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	ES1DGR	ES1GGR	ES1JGR	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	$I_{F(AV)}$	1.0			A
Peak Forward Surge Current 8.3ms single half sine- wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30.0			A
Maximum Forward Voltage at 1.0A 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 @ $T_J=125^\circ\text{C}$	$I_R$	5.0 200.0			$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	35			nS
Typical Junction Capacitance (Note 2)	$C_J$	15	8		pF
Typical Thermal Resistance (Note 3)	$R_{(JA)}$	75			$^\circ\text{C}/\text{W}$
	$R_{(JC)}$	25			
Storage Temperature	$T_{STG}$	-55 to +150			$^\circ\text{C}$
Operation Junction Temperature	$T_J$	-55 to +150			$^\circ\text{C}$

#### Note:

1. Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $IRR=0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Measured on P.C.Board with  $5.0 \times 5.0$  Copper Pad Areas.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

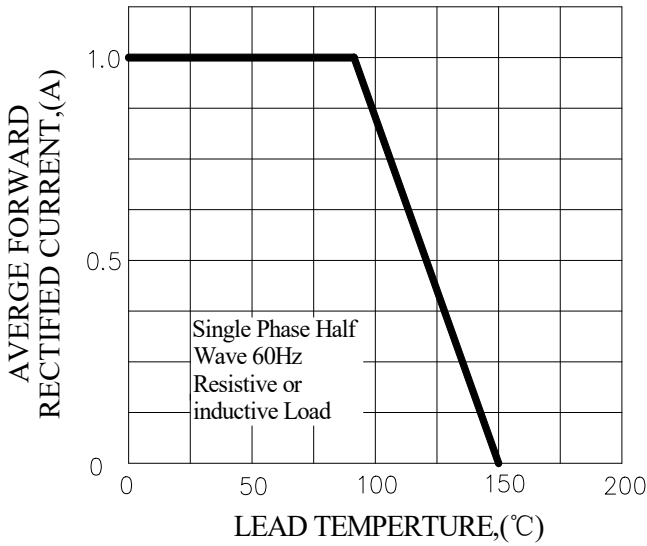


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

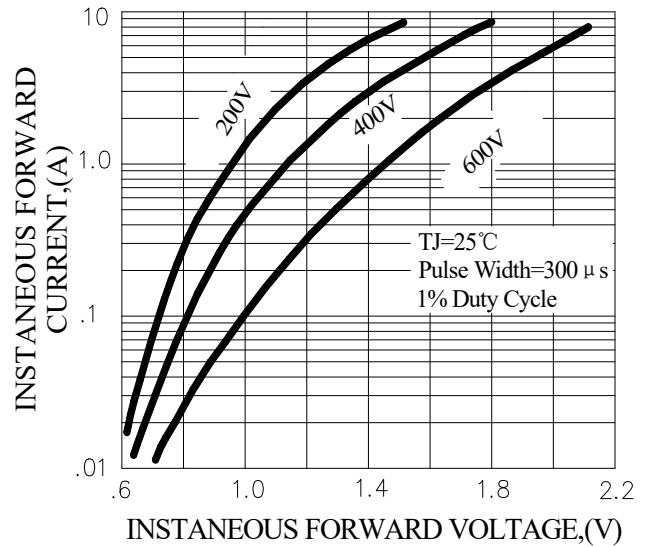


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

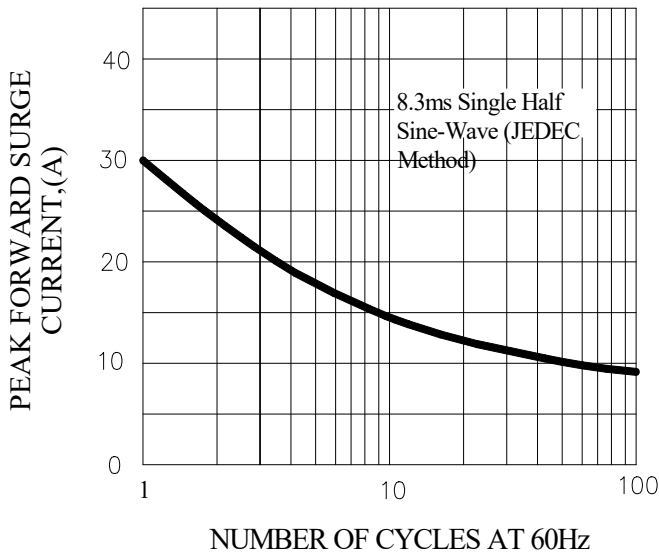


FIG.4-TYPICAL REVERSE CHARACTERISTICS

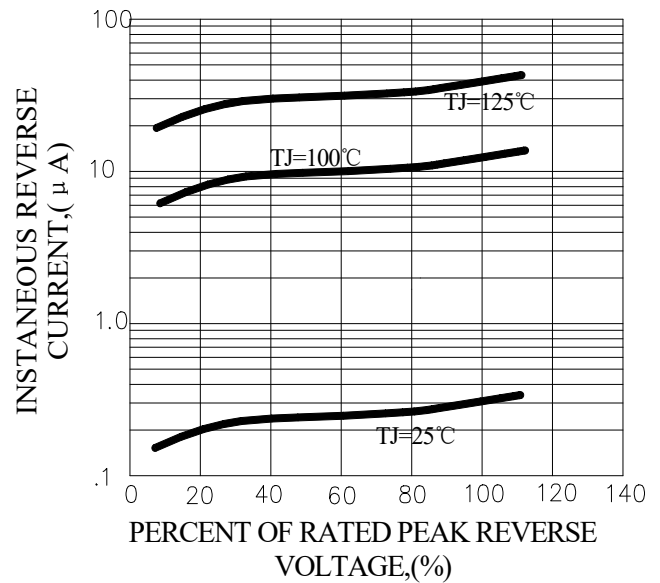
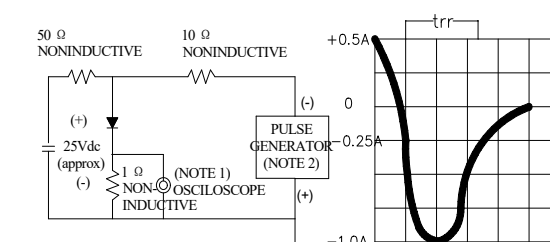


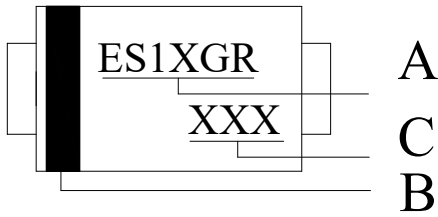
FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

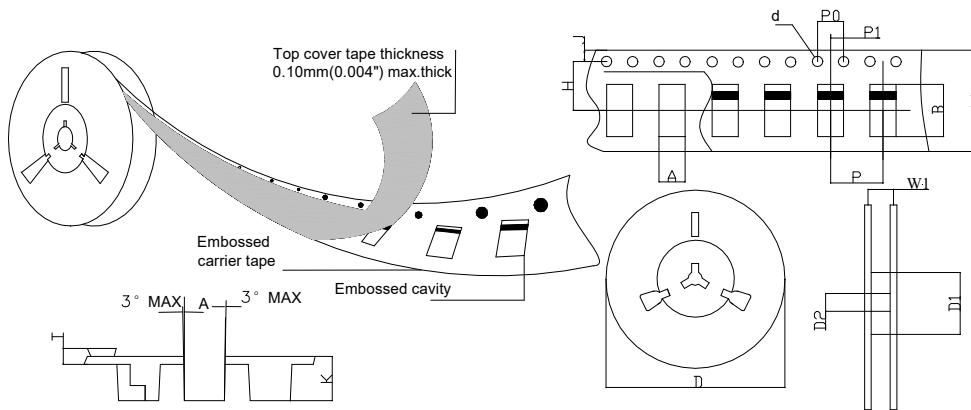
## Marking and packaging illustration

### 1、Marking



SYMBOL	explanation
A	Product name
B	Color Band Denotes Cathode
C	Date code

### 2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	SMA (DO-214AC)	ITEM	SYM BOL	SMA (DO-214AC)
Carrier width	A	3.17(0.125)Max	Carrier depth	K	2.42(0.095)Typ
Carrier length	B	5.81(0.229)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	330.0(13)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			