

## ES5DG THRU ES5JG

### 5.0AMPS. SUPER FAST SURFACE MOUNT RECTIFIER

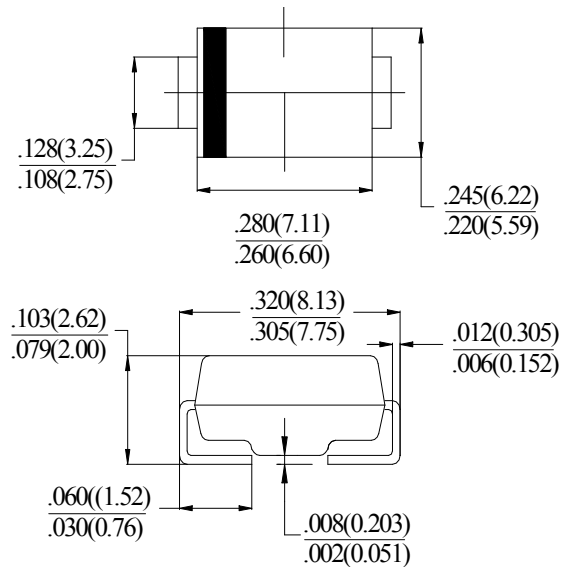
#### FEATURE

- . 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
- . Mounting position: Any

#### SMC (DO-214AB)



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	ES5DG	ES5GG	ES5JG	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	$I_{F(AV)}$	5.0			A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	120.0			A
Maximum Forward Voltage at 5.0A DC	$V_F$	0.95	1.3	1.7	V
Maximum DC Reverse Current @TJ=25°C at rated DC blocking voltage @TJ=125°C	$I_R$	5.0 500.0			μA
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	35			nS
Typical Junction Capacitance (Note 2)	$C_J$	45	30		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: If=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. P.C.B.Mounted on 0.6×0.6"(15.0×15.0mm)[0.013mm thick]Copper Pad Area.

**RATING AND CHARACTERISTIC CURVES (ES5DG THRU ES5JG)**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

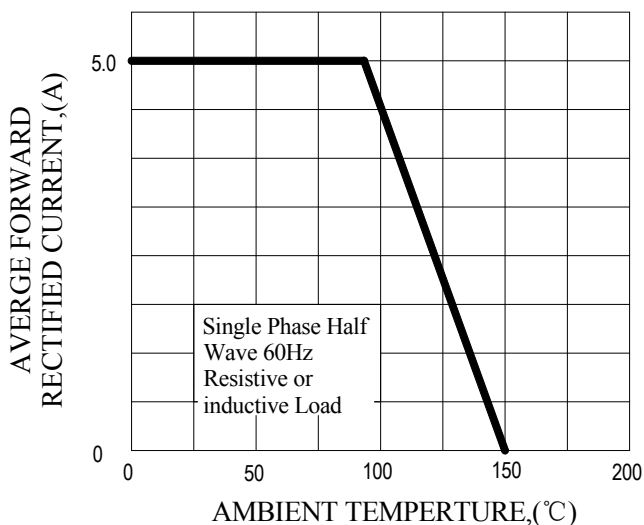


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

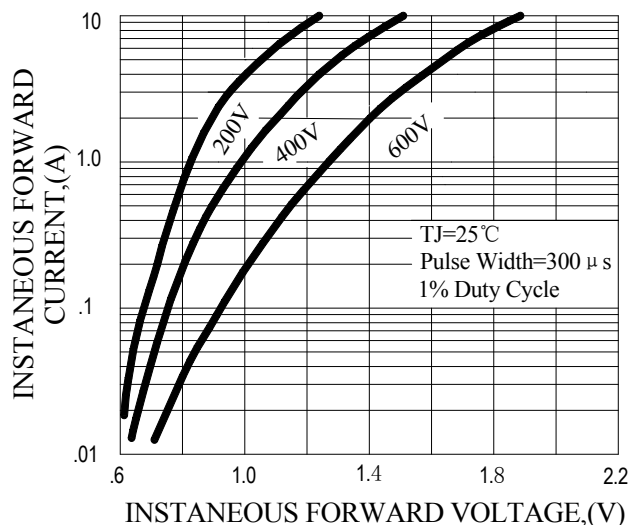


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

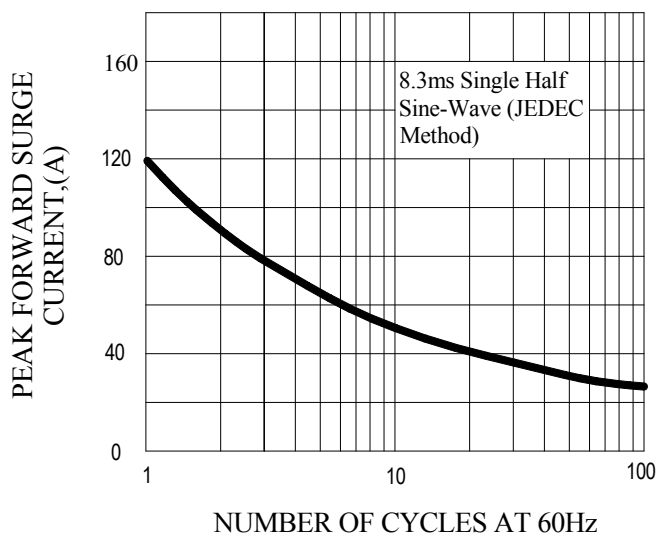


FIG.4-TYPICAL REVERSE CHARACTERISTICS

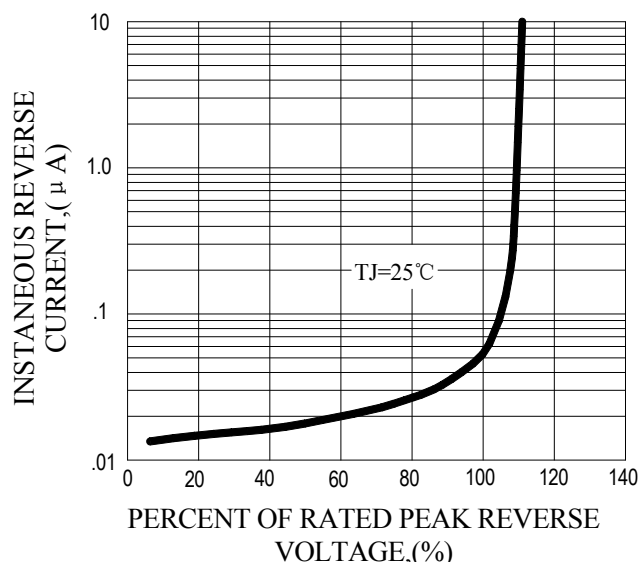
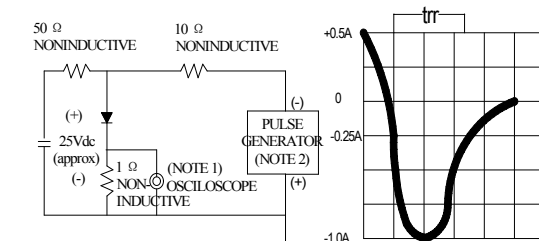


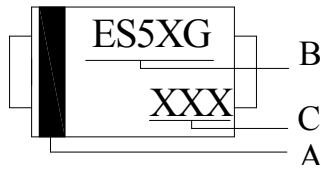
FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

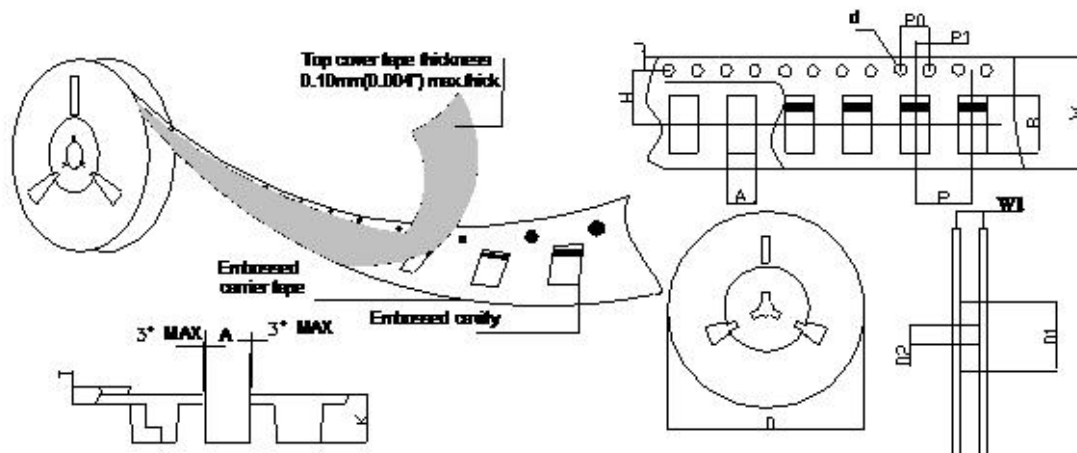
## Marking and packaging illustration

### 1、Marking



SYMBOL	Explanation
A	Color Band Denotes Cathode
B	Product Name, X: D、G/J
C	Date code

### 2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	DO-214AB	ITEM	SYM BOL	DO-214AB
Carrier width	A	6.15(0.242)Max	Carrier depth	K	2.54(0.100)Typ
Carrier length	B	8.41(0.331)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	74.0(2.913)Min	Overall tape thickness	T	0.25(0.010)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	16.0(0.430)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	16.5(0.650)Min
Punch hole position	H	7.50(0.295)Typ			

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