

### ■ Features

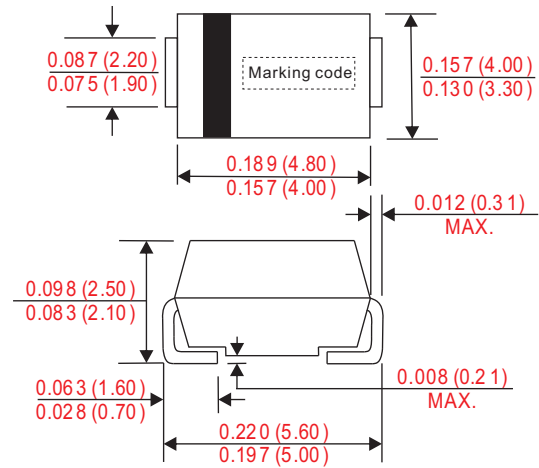
- Low profile surface mounted application in order to optimize board space.
- High current capability, low forward voltage drop.
- High surge capability.
- Superfast recovery time for switching mode application.
- Glass passivated chip junction.
- Suffix "G" indicates Halogen-free part, ex. ES1ABG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AA / SMB
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : 0.003 ounce, 0.091 gram

### ■ Outline

SMB(DO-214AA)



Dimensions in inches and (millimeters)

### ■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current		$I_o$			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			30	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	$I_R$			1.0	uA
	$V_R = V_{RRM}$ $T_A = 125^\circ\text{C}$				300	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_j$		7.0		pF
Storage temperature		$T_{STG}$	-50		+150	°C

Symbol	Marking code	Max. repetitive peak reverse voltage $V_{RRM}$ (V)	Max. RMS voltage $V_{RMS}$ (V)	Max. DC blocking voltage $V_R$ (V)	Max. forward voltage @1A, $T_A = 25^\circ\text{C}$ $V_F$ (V)	Max. reverse recovery time(1) $T_{rr}$ (ns)	Operating temperature $T_J$ (°C)
ES1AB	ES1A	50	35	50	0.95	35	-50 ~ +150
ES1BB	ES1B	100	70	100			
ES1DB	ES1D	200	140	200			
ES1GB	ES1G	400	280	400	1.25	35	
ES1JB	ES1J	600	420	600			
ES1KB	ES1K	800	560	800	1.70	75	
ES1MB	ES1M	1000	700	1000			

Note : 1.  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$

### Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

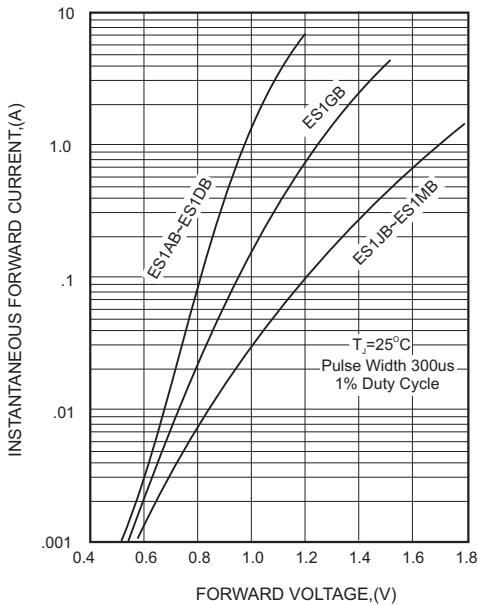


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

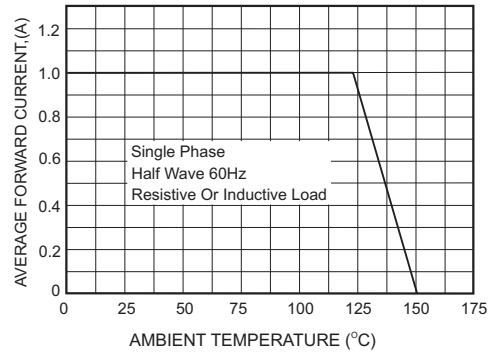


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

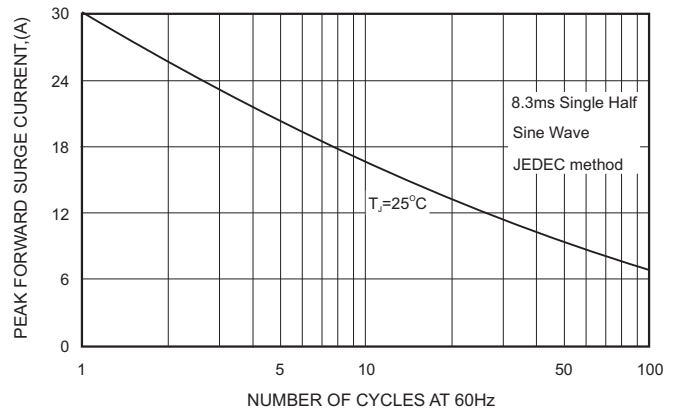
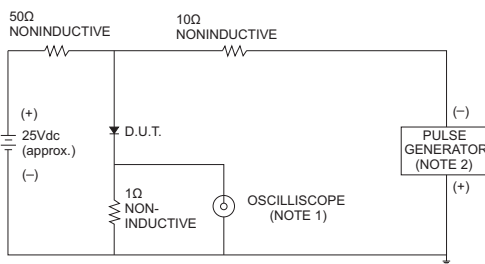


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE

### RECOVERY TIME CHARACTERISTICS



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

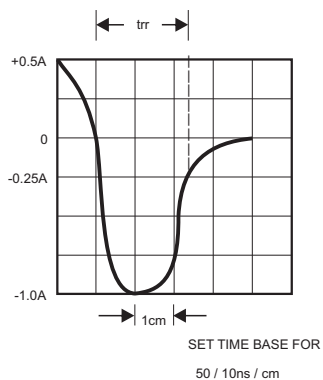
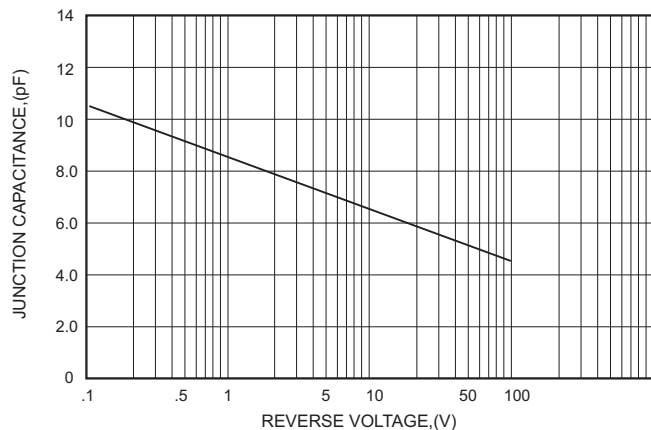
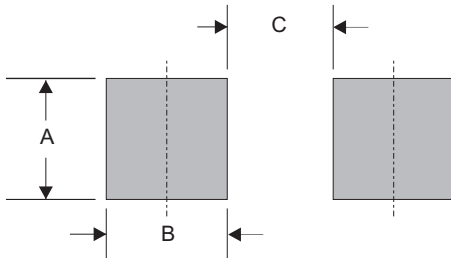


FIG.5-TYPICAL JUNCTION CAPACITANCE



■ SMB foot print



A	B	C
0.091 (2.30)	0.098 (2.50)	0.071 (1.80)

Dimensions in inches and (millimeters)

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