

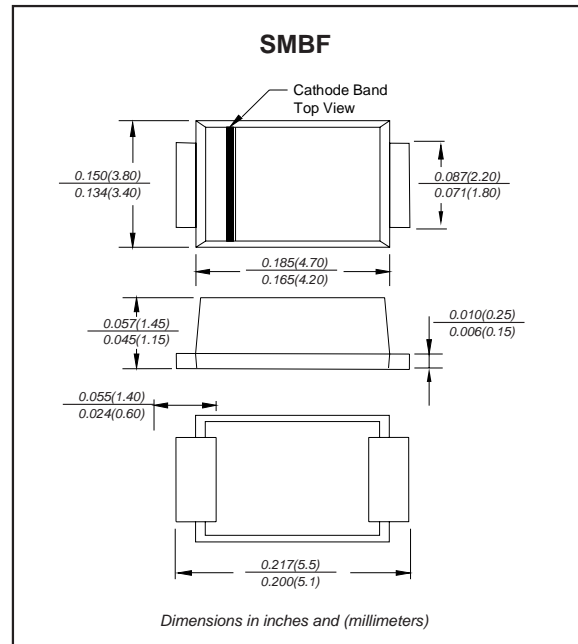
### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Super fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Glass passivated chip junction
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Compliant to Halogen-free

### Mechanical data

- ◆ **Case:** JEDEC SMBF molded plastic body
- ◆ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ◆ **Polarity:** Color band denotes cathode end
- ◆ **Mounting Position:** Any

### Package outline



### Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

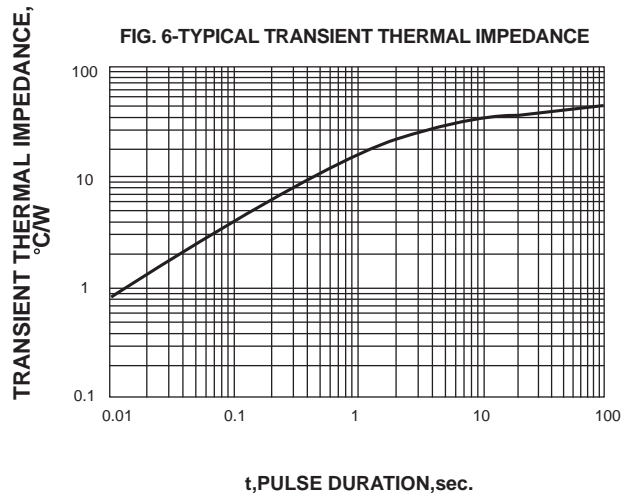
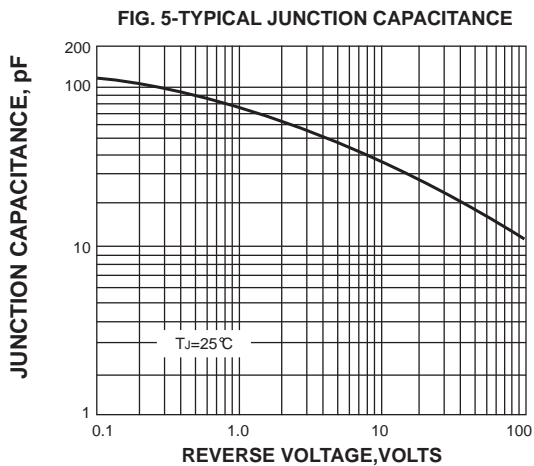
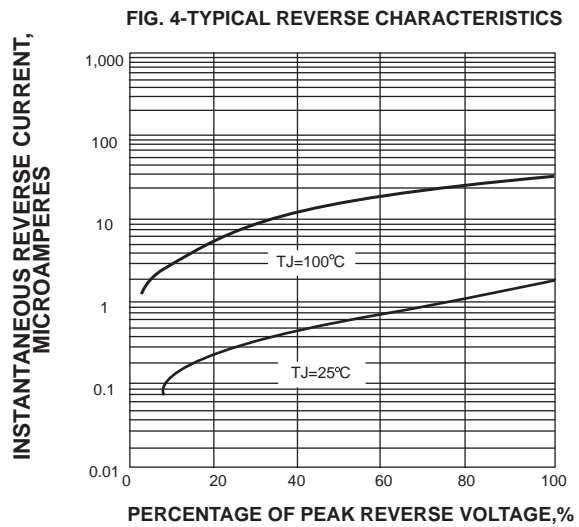
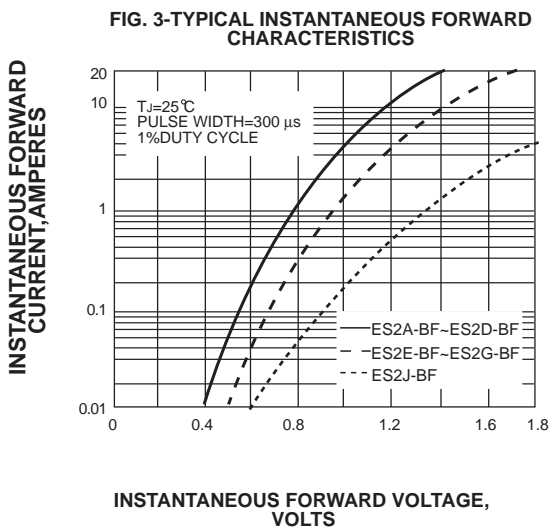
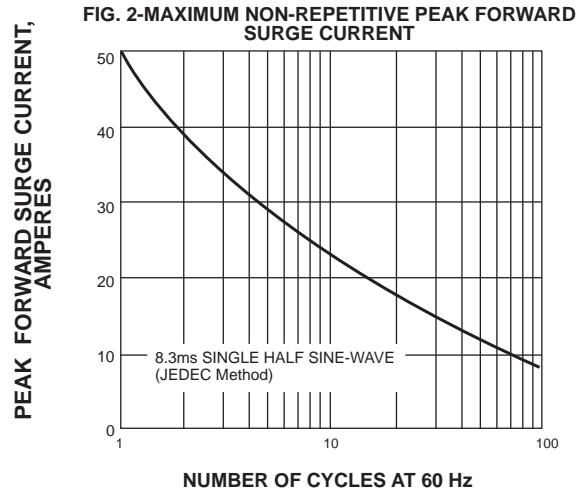
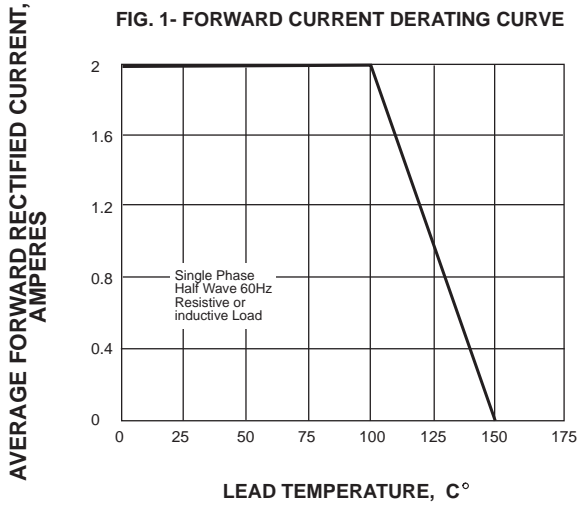
PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	$I_O$			2.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	$I_{FSM}$			50	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	$I_R$			5.0	$\mu\text{A}$
	$V_R = V_{RRM}$ $T_A = 100^\circ\text{C}$				50	
Thermal resistance	Junction to ambient NOTE 1	$R_{\theta JA}$		60		$^\circ\text{C/W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		28		pF
Storage temperature		$T_{STG}$	-65		+150	$^\circ\text{C}$

SYMBOLS	$V_{RRM}^{*1}$ (V)	$V_{RMS}^{*2}$ (V)	$V_R^{*3}$ (V)	$V_F^{*4}$ (V)	$t_{rr}^{*5}$ (ns)	Operating temperature $T_{Jr}$ ( $^\circ\text{C}$ )
ES2A-BF	50	35	50	0.95	35	-55 to +150
ES2B-BF	100	70	100			
ES2C-BF	150	105	150			
ES2D-BF	200	140	200	1.25	35	-55 to +150
ES2E-BF	300	210	300			
ES2G-BF	400	280	400			
ES2J-BF	600	420	600	1.70	35	-55 to +150

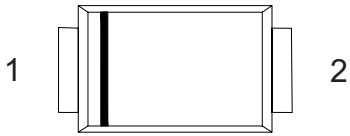

- \*1 Repetitive peak reverse voltage
- \*2 RMS voltage
- \*3 Continuous reverse voltage
- \*4 Maximum forward voltage@ $I_F=2.0\text{A}$
- \*5 Maximum Reverse recovery time, note 2

**Note:** 1.P.C.B. mounted with 2.0x2.0" (5.0x5.0cm) copper pad areas  
2. Reverse recovery time test condition,  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

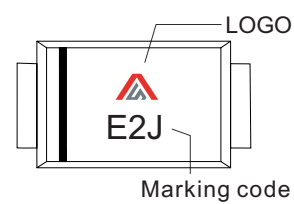
### Rating and characteristic curves



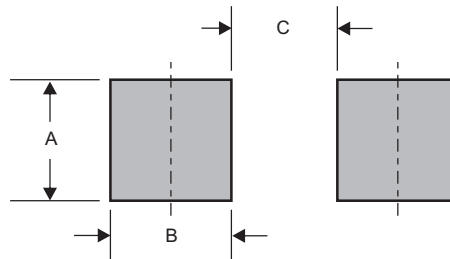
### Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

### Marking

Type number	Marking code	Example
ES2A-BF	E2A	
ES2B-BF	E2B	
ES2C-BF	E2C	
ES2D-BF	E2D	
ES2E-BF	E2E	
ES2G-BF	E2G	
ES2J-BF	E2J	

### Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMBF	0.098 (2.50)	0.071 (1.80)	0.118 (3.00)