

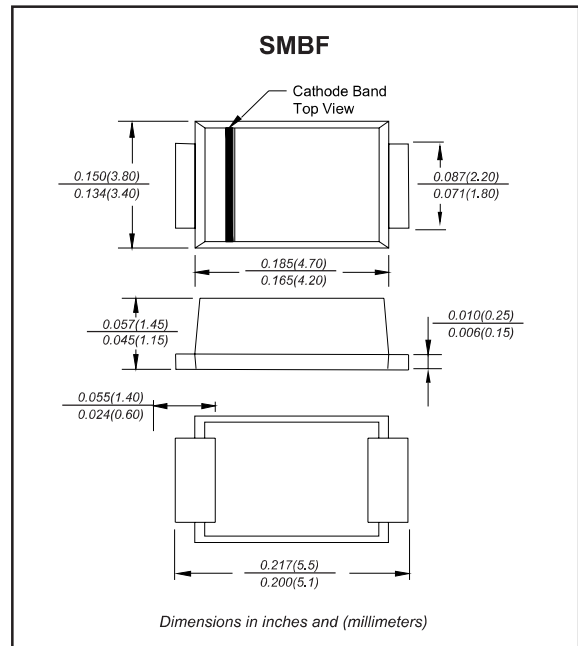
### Features

- ▶ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ▶ For surface mounted applications
- ▶ Metal silicon junction, majority carrier conduction
- ▶ Low power loss, high efficiency
- ▶ Built-in strain relief, ideal for automated placement
- ▶ High forward surge current capability
- ▶ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ▶ Compliant to RoHS Directive 2011/65/EU
- ▶ Compliant to Halogen-free
- ▶ Suffix "-Q1" for AEC-Q101

### 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	$I_o$			5.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	$I_{FSM}$			120	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	$I_R$			0.5	mA
	$V_R = V_{RRM}$ $T_A = 100^\circ\text{C}$				20	
Thermal resistance	Junction to ambient NOTE 1	$R_{\theta JA}$		35		$^\circ\text{C/W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		580		pF
Storage temperature		$T_{STG}$	-65		+150	$^\circ\text{C}$

**Note:** 1.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

SYMBOLS	$V_{RRM}^{*1}$ (V)	$V_{RMS}^{*2}$ (V)	$V_R^{*3}$ (V)	$V_F^{*4}$ (V)	Operating temperature $T_J$ , ( $^\circ\text{C}$ )
SL54-BF-Q1	40	28	40	0.45	-55 to +125
SL545-BF-Q1	45	32	45		
SL55-BF-Q1	50	35	50	0.55	-55 to +150
SL56-BF-Q1	60	42	60		
SL58-BF-Q1	80	56	80	0.75	-55 to +150
SL510-BF-Q1	100	70	100		
SL515-BF-Q1	150	105	150	0.85	-55 to +150
SL520-BF-Q1	200	140	200		

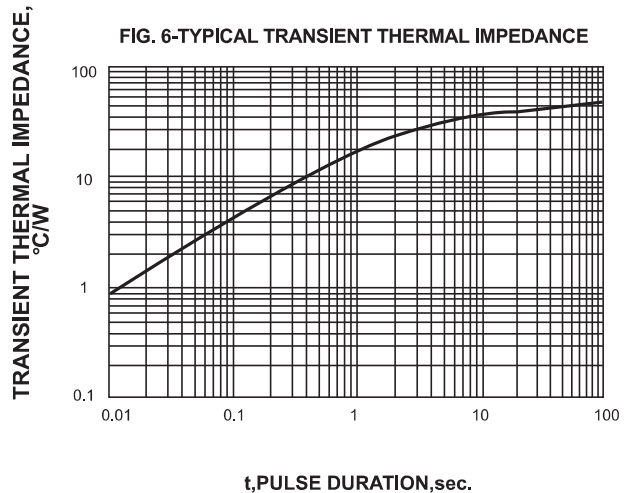
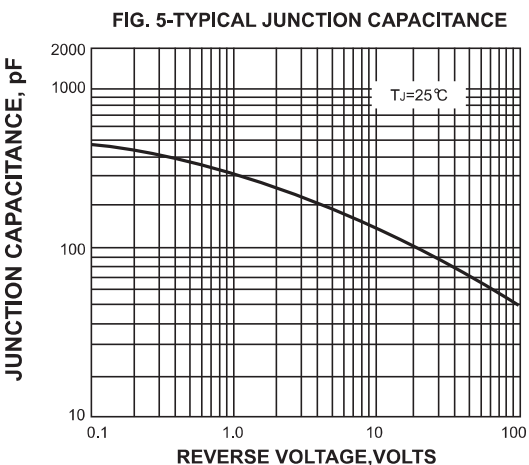
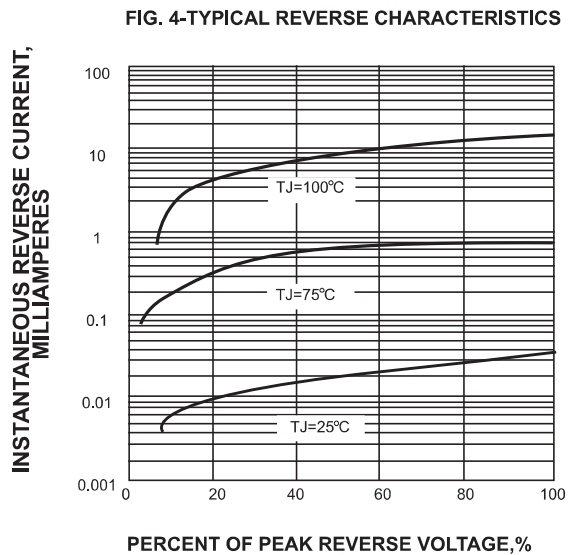
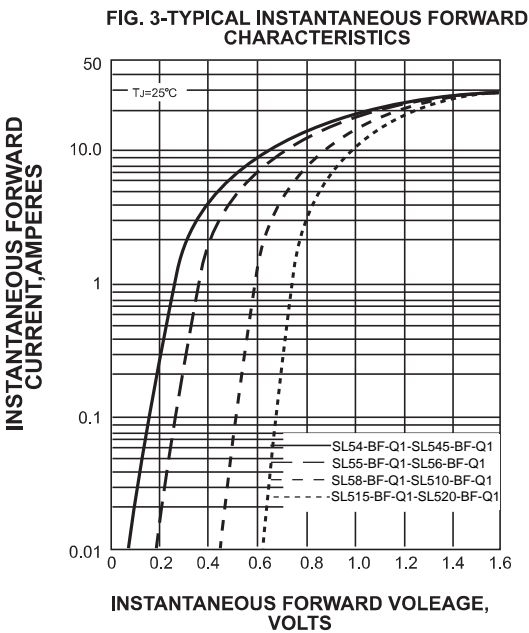
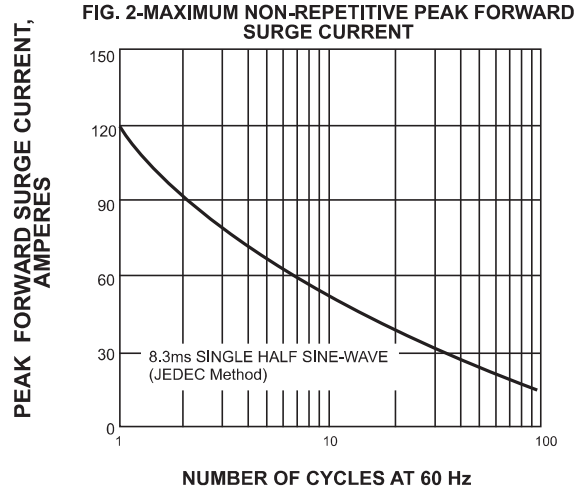
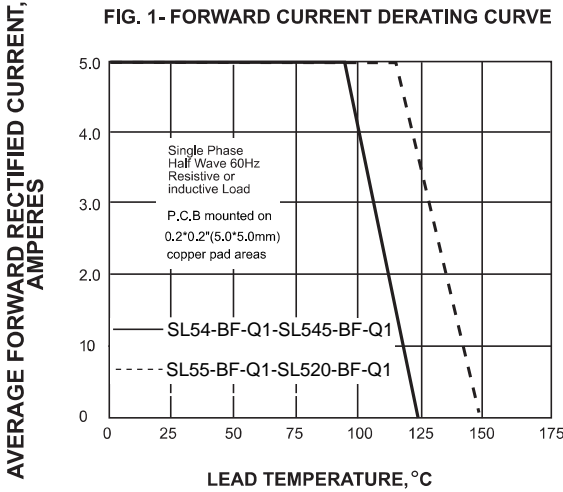
\*1 Repetitive peak reverse voltage

\*2 RMS voltage

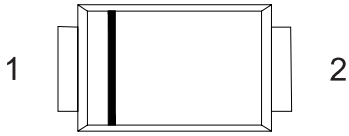

\*3 Continuous reverse voltage

\*4 Maximum forward voltage@ $I_F=5.0\text{A}$

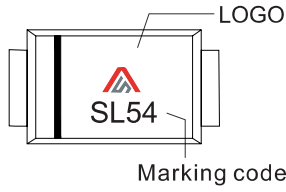
### Rating and characteristic curves



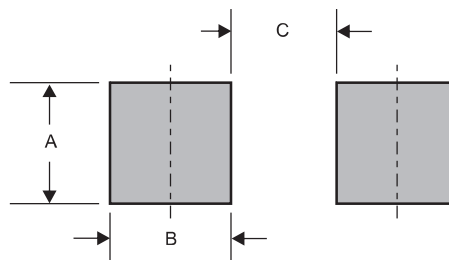
**Pinning information**

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

**Marking**

Type number	Marking code	Example
SL54-BF-Q1	SL54	
SL545-BF-Q1	SL545	
SL55-BF-Q1	SL55	
SL56-BF-Q1	SL56	
SL58-BF-Q1	SL58	
SL510-BF-Q1	SL510	
SL515-BF-Q1	SL515	
SL520-BF-Q1	SL520	

**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)