

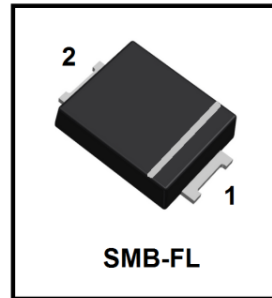
# EFMBF310 thru EFMBF380

## Surface Mount Glass Passivated Super Fast Rectifiers

### Reverse Voltage 50 to 600V Forward Current 3.0A

#### FEATURES

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* High temperature metallurgically bonded construction
- \* For use in high frequency rectifier circuits
- \* Fast switching for high efficiency
- \* Cavity-free glass passivated junction
- \* Capable of meeting environmental standards of MIL-S-19500
- \* 3.0 A operation at TC=75°C with no thermal runaway
- \* Typical IR less than 1.0μA
- \* High temperature soldering guaranteed: 260°C/10 seconds



#### Mechanical Data

**Case:** JEDEC SMB-FL molded plastic over glass Die

**Terminals:** Plated leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 64mg

**Handling precaution:** None

#### Electrical Characteristic

##### 1. Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	EFMB F310	EFMB F320	EFMB F330	EFMB F340	EFMB F350	EFMB F360	EFMB F370	EFMB F380	Unit
Device marking code		EF31	EF32	EF33	EF34	EF35	EF36	EF37	EF38	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current at $T_C = 75^\circ C$	$I_F(AV)$	3.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	90								A
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JC}$	90 9								$^\circ C/W$
Operating junction and storage temperature range	TJ, TSTG	-50 to +150								$^\circ C$

##### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	EFMB F310	EFMB F320	EFMB F330	EFMB F340	EFMB F350	EFMB F360	EFMB F370	EFMB F380	Unit	
Maximum instantaneous forward voltage at 3.0A	$V_F$	0.95			1.25		1.7			V	
Maximum DC reverse current $T_A = 25^\circ C$ at rated DC blocking voltage $T_J = 125^\circ C$	IR	5.0				100					$\mu A$
Typical reverse recovery time (Note 1)	trr	35									ns
Typical junction capacitance at 4.0V, 1MHz	CJ	15.0									PF

NOTES:

1.  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$
2. 8.0mm<sup>2</sup> (.013mm thick) land areas

# EFMBF310 thru EFMBF380

## 2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

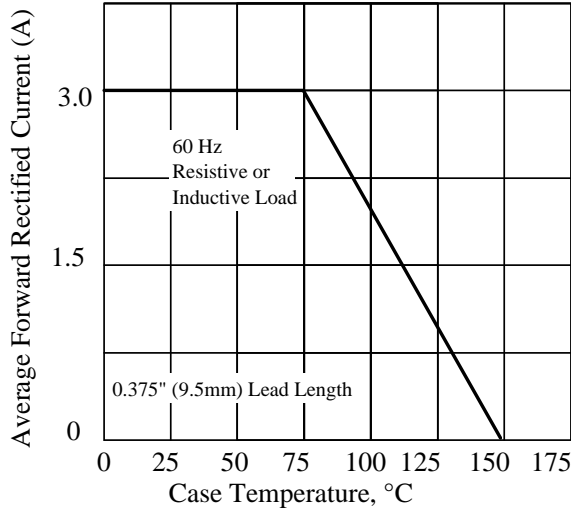


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

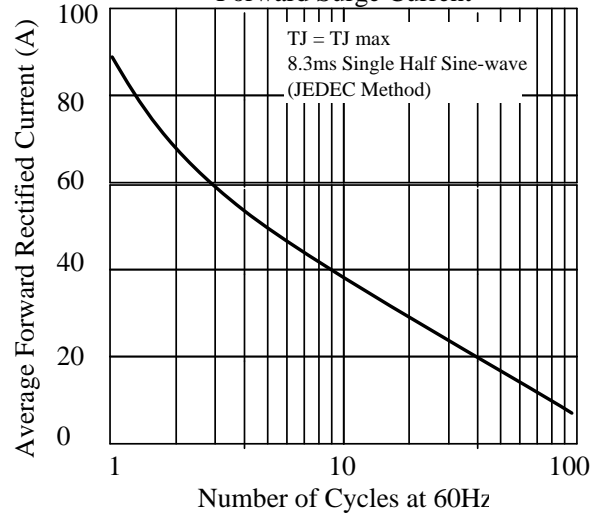


Fig 3. - Typical Instantaneous Forward Characteristics

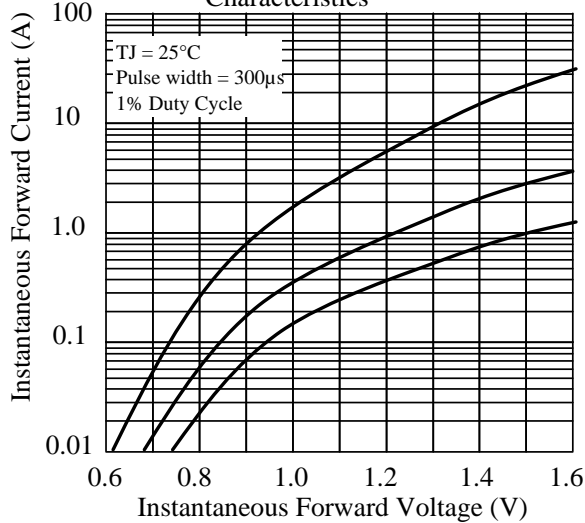


Fig 4. - Typical Reverse Characteristics

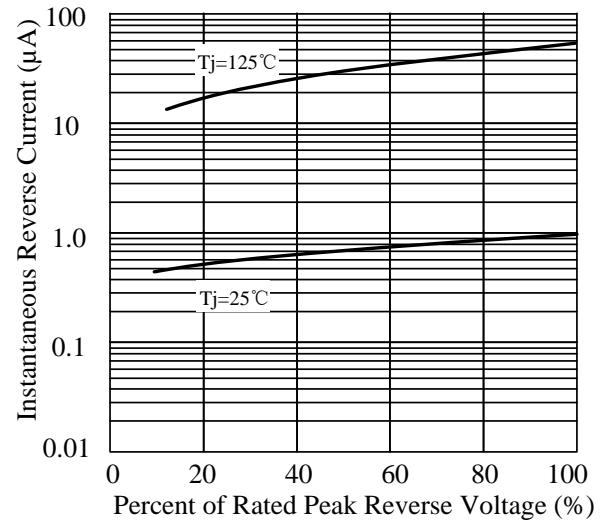


Fig 5. - typical transient thermal impedance

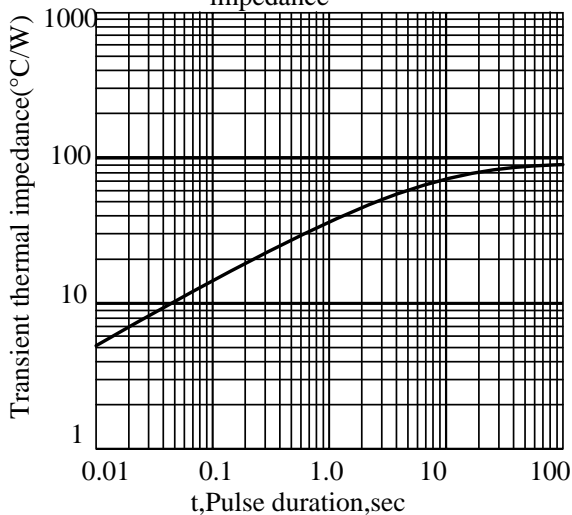
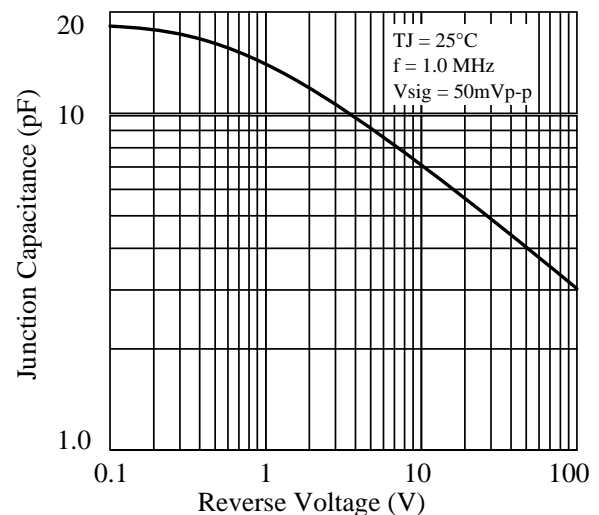
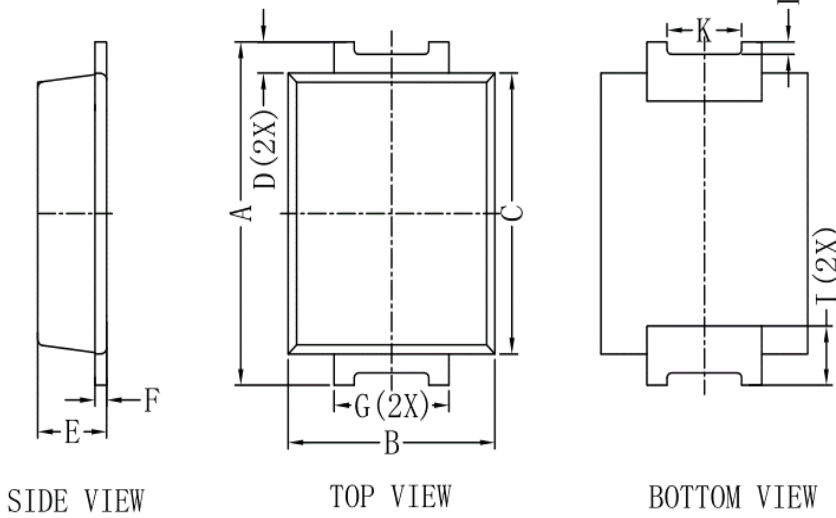


Fig 6. - Typical Junction Capacitance

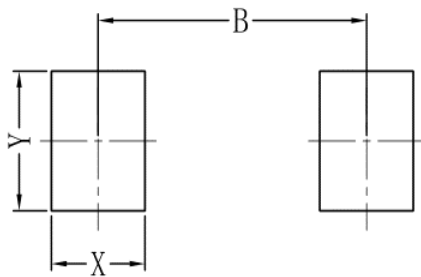


### 3. OUTLINE AND DIMENSIONS



SMB-FL			
DIM	Min	Max	Typ.
A	5.30	5.70	5.50
B	3.40	3.80	3.60
C	4.30	4.70	4.50
D	-	-	0.45
E	1.05	1.40	1.20
F	0.18	0.30	0.22
G	1.90	2.10	2.00
I	-	-	0.95
K	-	-	1.30
L	-	-	0.20
All Dimensions in mm			

### 4. SOLDERING FOOTPRINT



SMB-FL	
DIM	(mm)
X	1.60
Y	2.20
B	4.60



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8.1.2 Label position and QA stamp position.(Empty area) 标签张贴位置及QA印章位置。(印章盖在标签空白区)

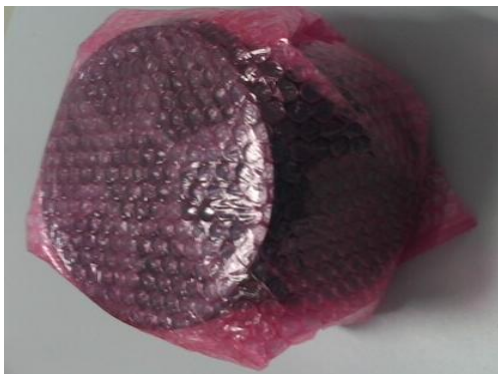


7英寸卷盘标签张贴及QA印章位置



13英寸卷盘标签张贴及QA印章位置

8.1.3 Ensure direction In the same reel. The same steel coil plate direction, With antistatic bubble to package reel. Refer to the below picture.  
同一箱内的卷盘方向一致,用防静电泡沫对卷盘进行包裹。



7英寸卷盘防静电泡沫包裹



13英寸卷盘防静电泡沫包裹

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8.1.4 Put in the antistatic packing box after packaged reels. And QA stamp on the box label .

将包装好的卷盘放入防静电纸箱中，并在盒标签上盖章。



7 英寸卷盘内盒及标签



13 英寸卷盘内盒及标签

8.1.5 Product use printing inner box. 产品使用LRC印字内箱。



7英寸卷盘内箱印字（侧面）



13英寸卷盘内箱印字（正面）

8.1.6 Inner box packing quantity requirement. 内盒包装数量要求。

Product Description	QTY
SOD123-FL	1-10Reels
SOD323-HE	1-10Reels
SMA-FL	1-7Reels
SMB-FL	1-4Reels

8.1.7 With transparent tape sealing. 透明胶带封箱。

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7英寸内箱封盒



13英寸内箱封盒

### 8.1.8 Outer box size and packing quantity requirement, 外箱尺寸及包装数量要求。

Product Description	卷盘尺寸	Height (H)	Width (W)	Length (L)	Max. Qty
Power Device	7 英寸	410mm	400mm	445mm	12
Power Device	13 英寸	410mm	400mm	445mm	5



7 英寸卷盘产品装箱



13 英寸卷盘产品装箱

统一方向

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## 功率封装字模和编带规范

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### 8.2 Standard Products Taping Specification

标准产品编带规范

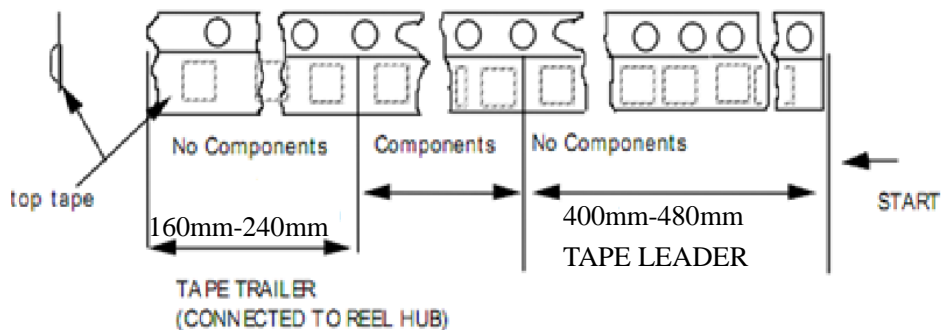
#### 8.2.1 Tape length of no component

空带长度说明

Taping leader length 引导部分:  $440\text{mm} \pm 40\text{mm}$  , Tape trailer 尾部:  $200\text{mm} \pm 40\text{mm}$

Figure 4

Tape Ends For Finished Goods Reel



8.2.2 Component packaging orientation: The cathode lead is close to the carrier tape's index hole.

产品放置方向: 印阴极带引脚邻近载带索引孔



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## 8.2.3 Tape enwind orientation

编带缠绕方向要求



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