

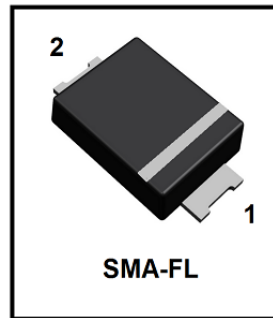
# HFMAF210 thru HFMAF290

## Surface Mount Glass Passivated High Efficiency Rectifiers

### Reverse Voltage 50 to 1200V Forward Current 2.0A

#### FEATURES

- \* Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- \* Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- \* Ultrafast recovery time for high efficiency
- \* Excellent high temperature switching
- \* Soft recovery characteristics
- \* Cavity-free glass passivated junction
- \* High temperature soldering guaranteed: 260°C/10 seconds
- \* 5 lbs. (2.3kg) tension



#### Mechanical Data

**Case:** JEDEC SMA-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:** 28mg

**Handling precaution:** None

#### 1. Electrical Characteristic

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

Parameter Symbol	symbol	HFMA F210	HFMA F220	HFMA F230	HFMA F240	HFMA F 250	HFMA F260	HFMA F270	HFMA F280	HFMA F290	Unit
device marking code		HF21	HF22	HF23	HF24	HF25	HF26	HF27	HF28	HF29	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	1200	V
Maximum RSM voltage	$V_{RSM}$	35	70	140	210	280	420	560	700	840	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	1200	V
Maximum average forward rectified current (See fig. 2) at $T_c=75^\circ\text{C}$ .	$I_F(AV)$	2.0									A
Peak forward surge current 8.3ms single half sine-wave, superimposed on rated load (JEDEC Method)	$I_{FSM}$	60									A
Typical thermal resistance (Note 2)	$R_{\theta JA}$	50									$^\circ\text{C/W}$
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	150 35									$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J$ , $T_{STG}$	-50 to +150									$^\circ\text{C}$

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

Parameter Symbol	symbol	HFMA 210	HFMA 220	HFMA 230	HFMA 240	HFMA 250	HFMA 260	HFMA 270	HFMA 280	HFMA 290	Unit
Maximum instantaneous forward voltage at 2.0A	$V_F$	1.00			1.30		1.85				V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_J = 100^\circ\text{C}$	$I_R$	5.0 50									$\mu\text{A}$
Typical reverse recovery time (Note 1)	$t_{rr}$	50						75			ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	17									PF

NOTES:

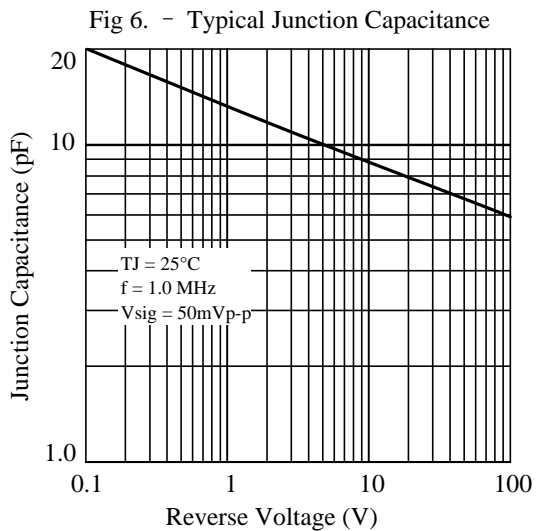
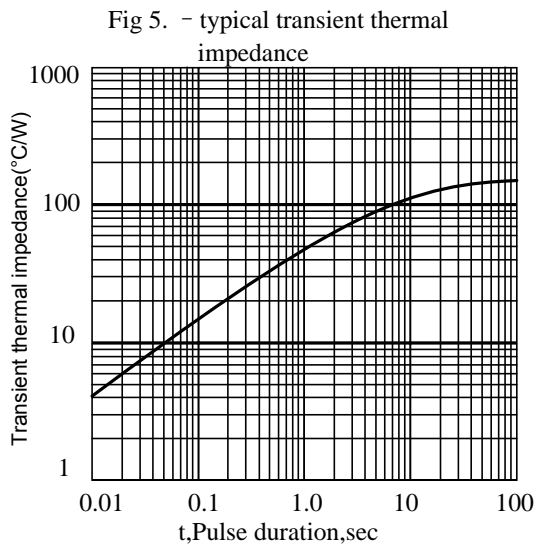
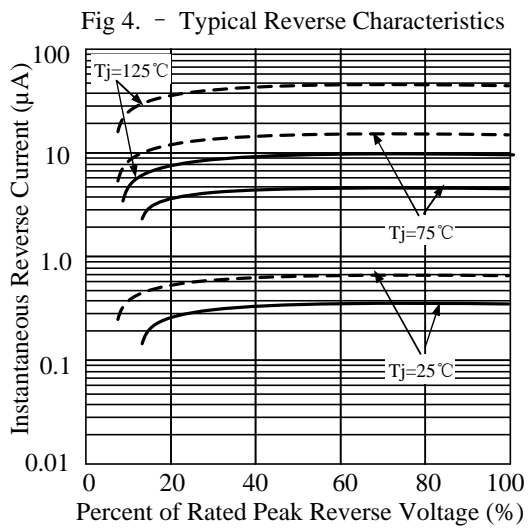
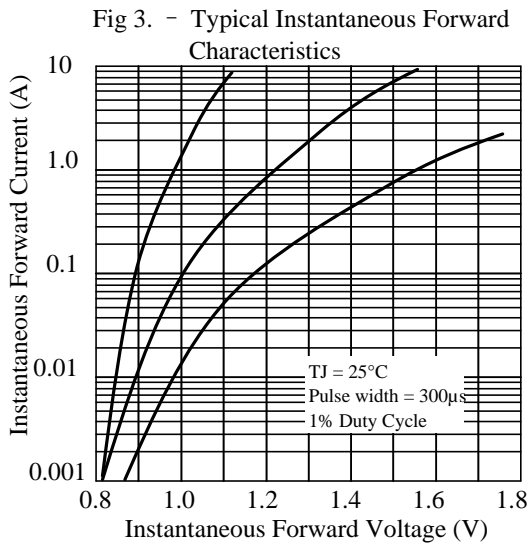
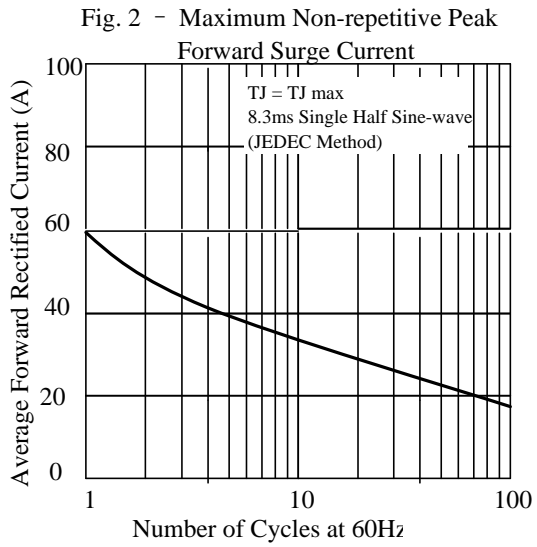
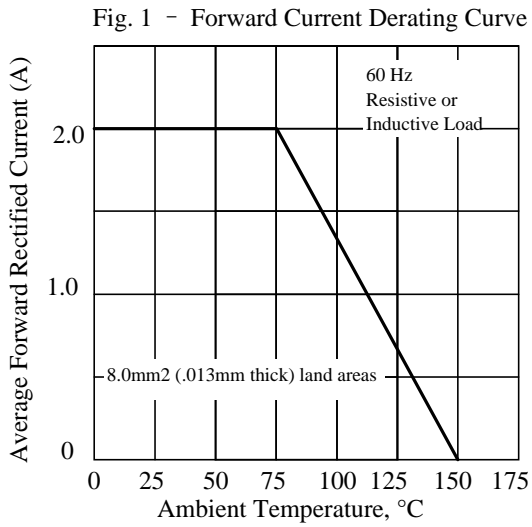
1.  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $IRR = 0.25\text{A}$
2. 8.0mm<sup>2</sup> (.013mm thick) land areas



We declare that the material of product is Halogen free (green epoxy compound)

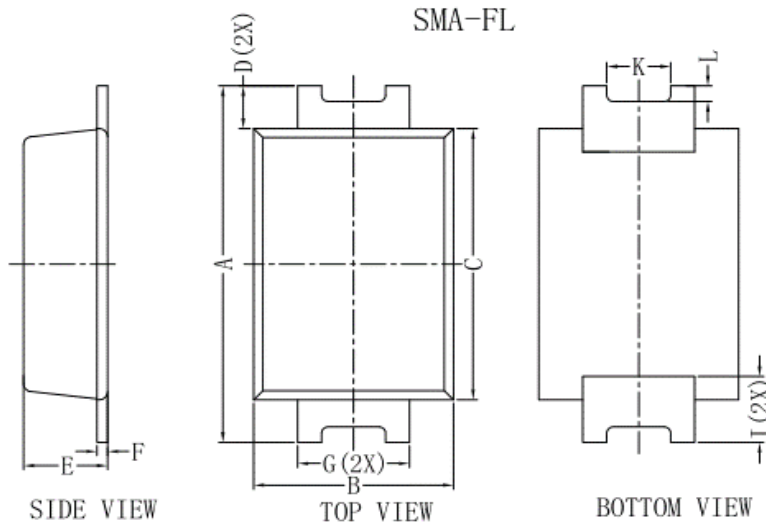
# HFMAF210 thru HFMAF290

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



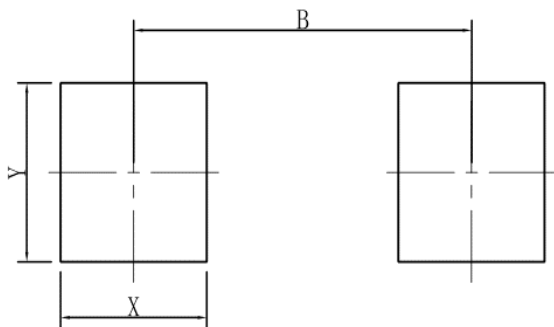
# HFMAF210 thru HFMAF290

## 3. OUTLINE AND DIMENSIONS



SMA-FL			
DIM	MIN	MAX	Typ.
A	4.40	4.80	4.60
B	2.30	2.70	2.60
C	3.30	3.70	3.50
D	-	-	0.55
E	0.90	1.20	1.05
F	0.11	0.21	0.17
G	1.30	1.50	1.40
I	-	-	0.90
K	-	-	0.80
L	-	-	0.20
All Dimensions in mm			

## 4. SOLDERING FOOTPRINT



SMA-FL	
DIM	(mm)
X	1.60
Y	1.80
B	3.70



Proprietary Information

# Title: Power Packages Product Packing Specification

## 功率产品包装规范

Document Number: APS-QA-QS-009

Revision C

Page 3 of 6



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

Do not copy without written permission from Advanced Power Semiconductor



Proprietary Information

# Title: Power Packages Product Packing Specification

## 功率产品包装规范

Document Number: APS-QA-QS-009

Revision C

Page 4 of 6

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。



Proprietary Information

# Title: Power Packages Product Packing Specification 功率产品包装规范

Document Number: APS-QA-QS-009

Revision C

Page 5 of 6



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



Proprietary Information

# Title: Power Packages Marking & Taping Specification

## 功率封装字模和编带规范

Document Number:APS-QA-QS-010

Revision C

Page 6 of 9

### 8.2 Standard Products Taping Specification

标准产品编带规范

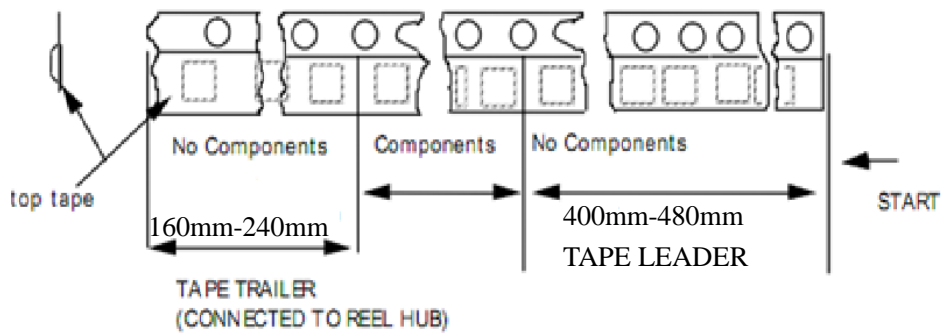
#### 8.2.1 Tape length of no component

空带长度说明

Taping leader length 引导部分: 440mm±40mm , Tape trailer 尾部: 200mm±40mm

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





Proprietary Information

# Title: Power Packages Marking & Taping Specification

## 功率封装字模和编带规范

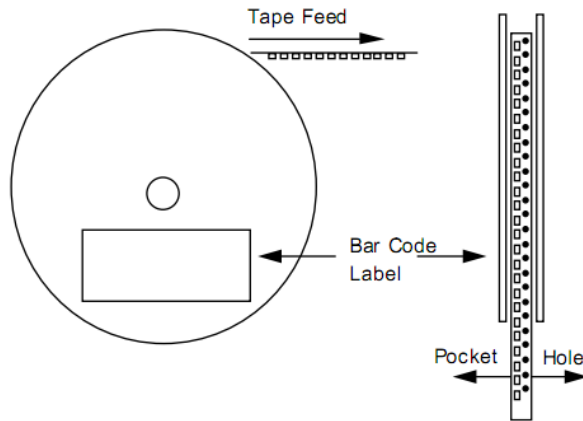
Document Number: APS-QA-QS-010

Revision C

Page 7 of 9

### 8.2.3 Tape enwind orientation

编带缠绕方向要求





## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Diodes - General Purpose, Power, Switching category](#):*

*Click to view products by [Leshan manufacturer](#):*

Other Similar products are found below :

[MCL4151-TR3](#) [MMBD3004S-13-F](#) [RD0306T-H](#) [RD0506LS-SB-1H](#) [RGP30G-E373](#) [DSE010-TR-E](#) [BAQ333-TR](#) [BAQ335-TR](#) [BAQ33-GS18](#) [BAS1602VH6327XT](#) [BAV17-TR](#) [BAV19-TR](#) [BAV301-TR](#) [BAW27-TAP](#) [HSC285TRF-E](#) [NSVBAV23CLT1G](#) [NTE525](#) [1SS181-TP](#) [1SS184-TP](#) [1SS193,LF](#) [1SS193-TP](#) [1SS400CST2RA](#) [SBAV99LT3G](#) [SDAA13](#) [LL4448-GS18](#) [SHN2D02FUTW1T1G](#) [LS4150GS18](#) [LS4151GS08](#) [SMMD7000LT3G](#) [FC903-TR-E](#) [1N4449](#) [1N4934-E3/73](#) [1SS226-TP](#) [APT100DL60HJ](#) [RFUH20TB3S](#) [RGP30G-E354](#) [RGP30M-E3/73](#) [D291S45T](#) [MCL4151-TR](#) [BAS 16-02V H6327](#) [BAS 21U E6327](#) [BAS 28 E6327](#) [BAS33-TAP](#) [BAS 70-02V H6327](#) [BAV300-TR](#) [BAV303-TR3](#) [BAW27-TR](#) [BAW56DWQ-7-F](#) [BAW56M3T5G](#) [BAW75-TAP](#)