

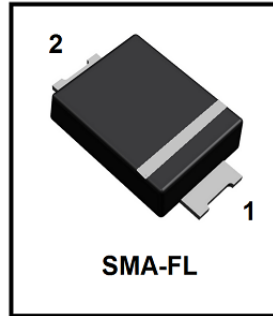
SM120AF thru SM1100AF

Schottky Barrier Rectifiers

Reverse Voltage 20 to 100V Forward Current 1.0A

FEATURES

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * Low power loss, high efficiency
- * For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- * Guardring for over voltage protection
- * High temperature soldering guaranteed: 260°C/10 seconds at terminals



Mechanical Data

Case: JEDEC SMA-FL

molded plastic over sky 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.



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

Parameter Symbol	symbol	SM120AF	SM130AF	SM140AF	SM150AF	SM160AF	SM180AF	SM1100AF	Unit
device marking code		S12	S13	S14	S15	S16	S18	S110	
Maximum repetitive peak reverse voltage	VRRM	20	30	40	50	60	80	100	V
Maximum RMS voltage	VRMS	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	VDC	20	30	40	50	60	80	100	V
Maximum average forward rectified current at TC = 75°C (See fig. 1)	IF(AV)	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	30							A
Typical thermal resistance (Note 1)	RθJA RθJL	150 35							°C/W
Operating junction and storage temperature range	TJ, TSTG	-40 to +150							°C

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

Parameter Symbol	symbol	SM120AF	SM130AF	SM140AF	SM150AF	SM160AF	SM180AF	SM1100AF	Unit
Maximum instantaneous forward voltage at 1.0A	V _F	0.50			0.70		0.85		V
Maximum DC reverse current TA = 25°C at rated DC blocking voltage Tj = 125°C	IR	0.5 5.0							mA
Typical junction capacitance at 4.0V, 1MHz	CJ	110							PF

NOTES:

1. 8.0mm² (.013mm thick) land areas

SM120AF thru SM1100AF

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

Fig. 1 - Forward Current Derating Curve

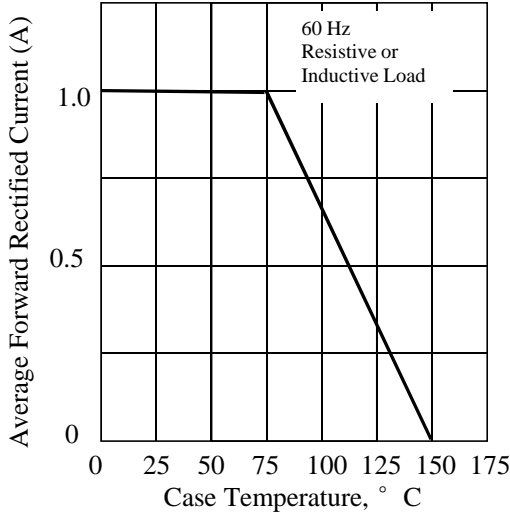


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

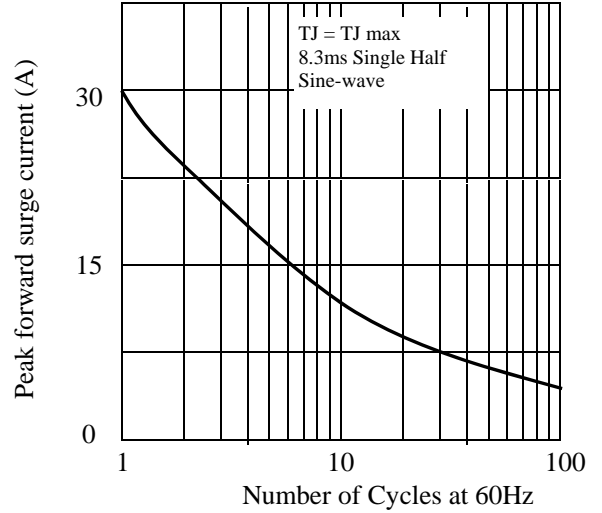


Fig 3. - Typical Instantaneous Forward Characteristics

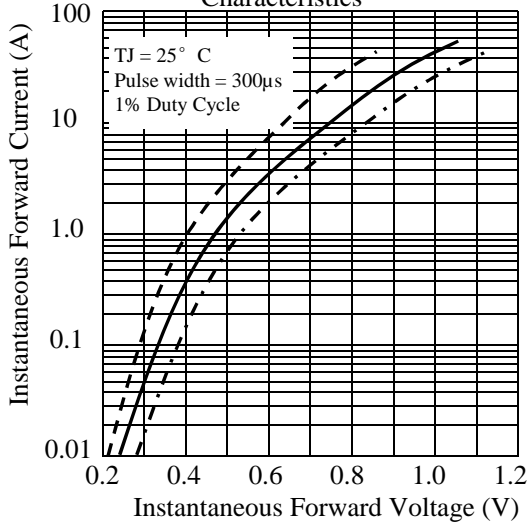


Fig 4. - Typical Reverse Characteristics

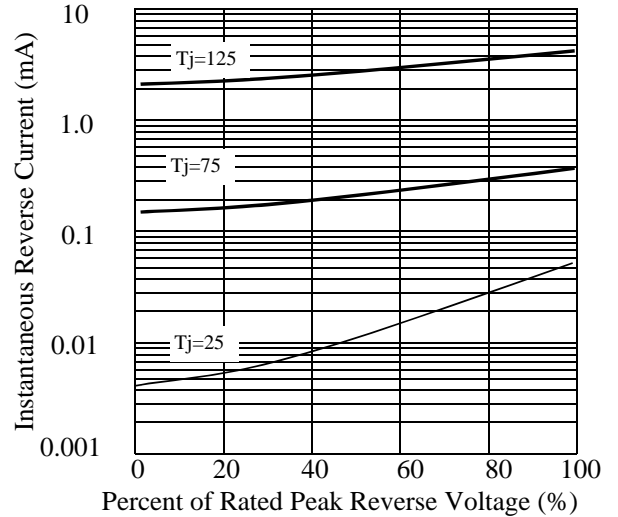


Fig 5. - typical transient thermal impedance

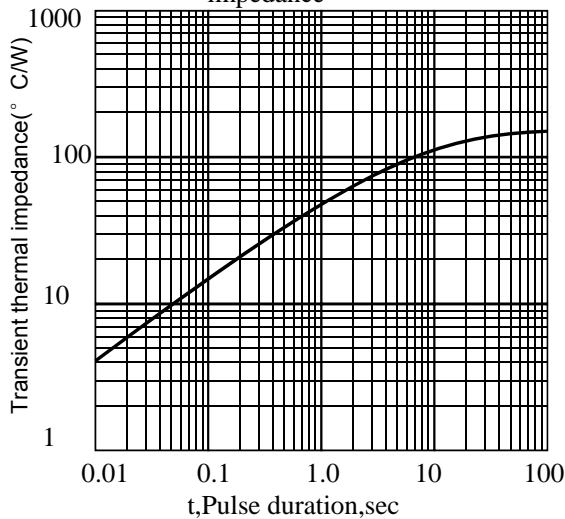
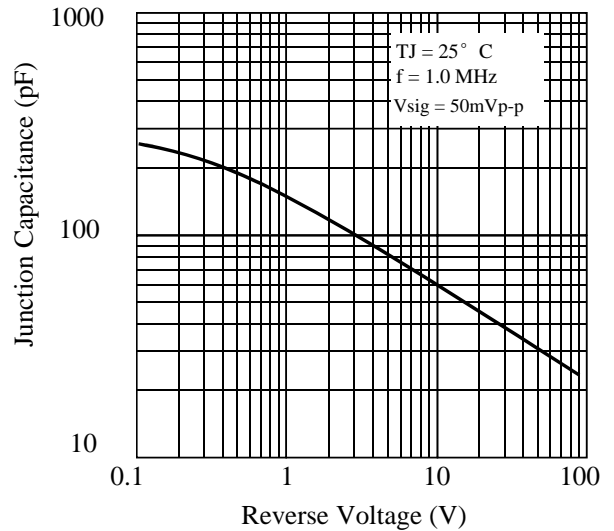
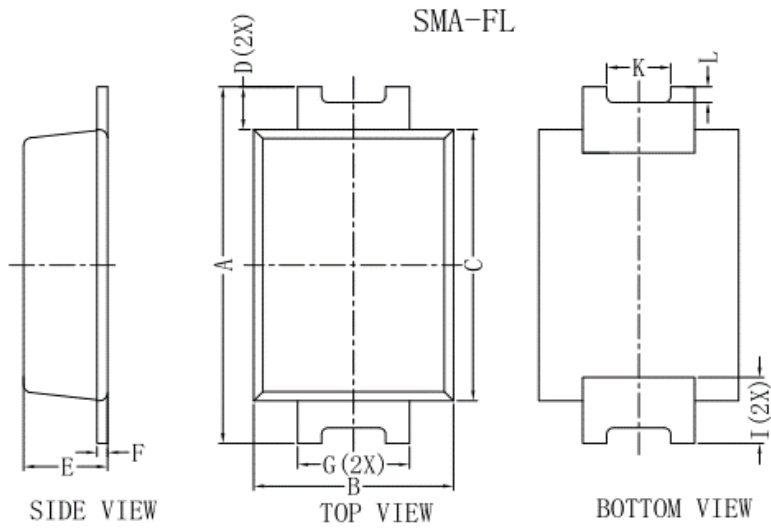


Fig 6. - Typical Junction Capacitance



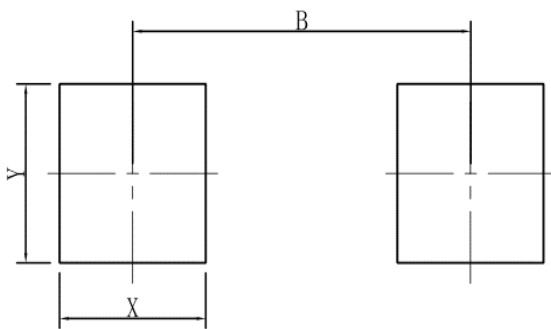
3. OUTLINE AND DIMENSIONS



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)



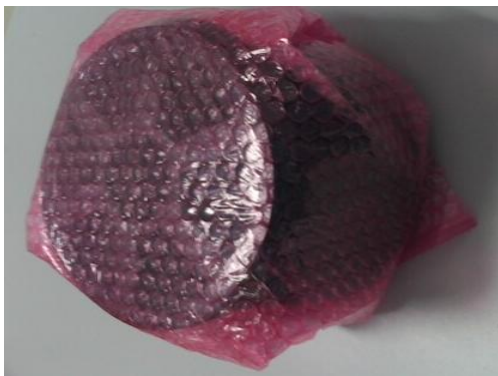
7英寸卷盘标签张贴及QA印章位置



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

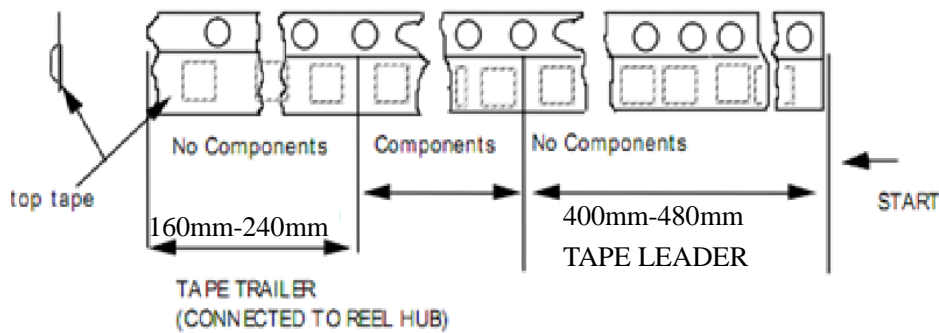
8.2.1 Tape length of no component

空带长度说明

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





Proprietary Information

Title: Power Packages Marking & Taping Specification

功率封装字模和编带规范

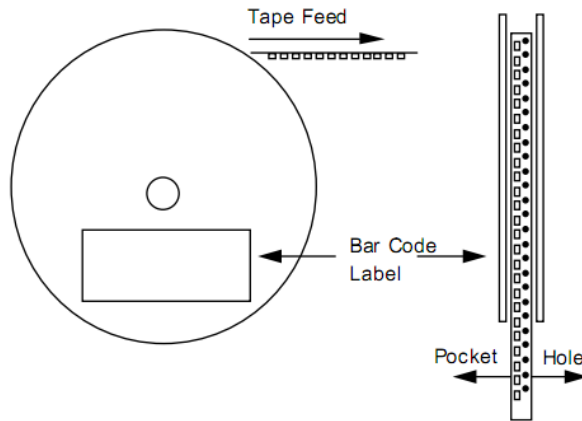
Document Number: APS-QA-QS-010

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 [Schottky Diodes & Rectifiers](#) category:

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

Other Similar products are found below :

[MA4E2039](#) [MA4E2508M-1112](#) [MBR1545CT](#) [MMBD301M3T5G](#) [RB160M-50TR](#) [D83C](#) [BAS16E6433HTMA1](#) [BAT 54-02LRH E6327](#)
[NRVBAF360T3G](#) [NSR05F40QNXT5G](#) [NTE555](#) [JANS1N6640](#) [SK310-T](#) [SK34B-TP](#) [SS3003CH-TL-E](#) [GA01SHT18](#)
[CRS10I30A\(TE85L,QM](#) [MA4E2501L-1290](#) [MBRA140TRPBF](#) [MBRB30H30CT-1G](#) [BAT 15-04R E6152](#) [JANTX1N5712-1](#) [DMJ3940-000](#)
[SB007-03C-TB-E](#) [SK33B-TP](#) [NRVBB20100CTT4G](#) [NRVBM120LT1G](#) [NTSB30U100CT-1G](#) [VS-6CWQ10FNHM3](#) [CRG04\(T5L,TEMQ\)](#)
[ACDBA1100LR-HF](#) [ACDBA1200-HF](#) [ACDBA240-HF](#) [ACDBA3100-HF](#) [CDBQC0530L-HF](#) [CDBQC0240LR-HF](#) [ACDBA260LR-HF](#)
[ACDBA1100-HF](#) [MA4E2502L-1246](#) [10BQ015-M3/5BT](#) [NRVBM120ET1G](#) [CRS08TE85LQM](#) [PMAD1108-LF](#) [B120Q-13-F](#) [1N5819T-G](#)
[B0530WSQ-7-F](#) [PDS1040Q-13](#) [B160BQ-13-F](#) [SDM05U20CSP-7](#) [B140S1F-7](#)