



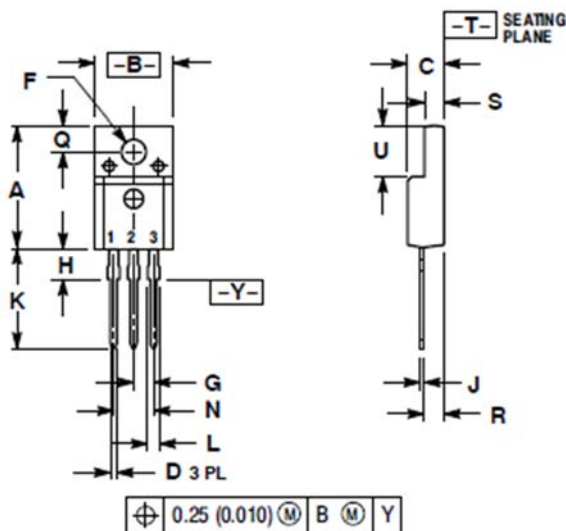
Title of Change:	Transfer assembly and test of Ultrafast and Planar Schottky rectifier products in TO220FP package from ON Semiconductor Vietnam (OSV) to SP Semiconductor & Communication Co., Ltd (SP Semi) with case outline change.																			
Proposed Changed Material First Ship Date:	29 August 2019																			
Contact information:	Contact your local ON Semiconductor Sales Office or <Phuong.Hoang@onsemi.com>																			
Samples:	Contact your local ON Semiconductor Sales Office or <PCN.samples@onsemi.com> Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.																			
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <Tam.Vu@onsemi.com>																			
Type of notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. ON Semiconductor will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact <PCN.Support@onsemi.com>																			
Change Part Identification:	Products from SP semi will be marked with site code "SP" prior to date code.																			
Change Category:	☐ Wafer Fab Change ☒ Assembly Change ☒ Test Change ☐ Other _____																			
Change Sub-Category(s):	☐ Manufacturing Site Addition ☒ Material Change ☐ Datasheet/Product Doc change ☒ Manufacturing Site Transfer ☐ Product specific change ☒ Shipping/Packaging/Marking ☐ Manufacturing Process Change ☐ Other: _____																			
Sites Affected:	ON Semiconductor Sites: ON Dong Nai Province, Vietnam	External Foundry/Subcon Sites: SP Semiconductor & Communication																		
Description and Purpose: This FPCN announces the planned assembly and test operations transfer of TO-220FP packaged Mesa Ultrafast, Planar Schottky Rectifier products. The products are currently built in ON Semiconductor Vietnam (OSV). Upon expiration of the FPCN, all products listed here will be transferred to SP semi with case outline change.																				
	<table border="1"> <thead> <tr> <th></th><th>Before Change Description</th><th>After Change Description</th></tr> </thead> <tbody> <tr> <td>Assembly and Test Site</td><td>OSV</td><td>SP semi</td></tr> <tr> <td>Case outline</td><td>221AH</td><td>221D-03</td></tr> <tr> <td>Leadframe</td><td>Jih Lin bare copper</td><td>Samsung bare copper</td></tr> <tr> <td>Mold Compound</td><td>Samsung SG8300HKL</td><td>KCC KTMC3097</td></tr> <tr> <td>Site code marking</td><td>VN</td><td>SP</td></tr> </tbody> </table>			Before Change Description	After Change Description	Assembly and Test Site	OSV	SP semi	Case outline	221AH	221D-03	Leadframe	Jih Lin bare copper	Samsung bare copper	Mold Compound	Samsung SG8300HKL	KCC KTMC3097	Site code marking	VN	SP
	Before Change Description	After Change Description																		
Assembly and Test Site	OSV	SP semi																		
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Leadframe	Jih Lin bare copper	Samsung bare copper																		
Mold Compound	Samsung SG8300HKL	KCC KTMC3097																		
Site code marking	VN	SP																		



Comparison between case outline

TO-220 FULLPAK

CASE 221D-03(SP Semi)



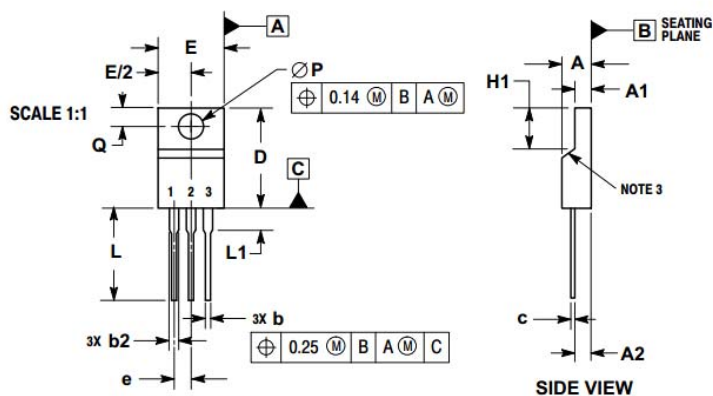
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH
3. 221D-01 THRU 221D-02 OBSOLETE, NEW STANDARD 221D-03.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.617	0.635	15.67	16.12
B	0.392	0.419	9.96	10.63
C	0.177	0.193	4.50	4.90
D	0.024	0.039	0.60	1.00
F	0.116	0.129	2.95	3.28
G	0.100 BSC		2.54 BSC	
H	0.118	0.135	3.00	3.43
J	0.018	0.025	0.45	0.63
K	0.503	0.541	12.78	13.73
L	0.048	0.058	1.23	1.47
N	0.200 BSC		5.08 BSC	
Q	0.122	0.138	3.10	3.50
R	0.099	0.117	2.51	2.96
S	0.092	0.113	2.34	2.87
U	0.239	0.271	6.06	6.88

TO-220 FULLPAK

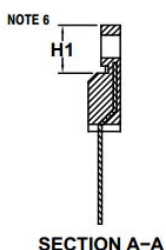
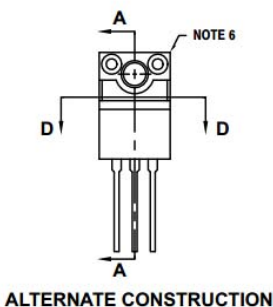
CASE 221AH (OSV)



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. CONTOUR UNCONTROLLED IN THIS AREA.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH AND GATE PROTRUSIONS. MOLD FLASH AND GATE PROTRUSIONS NOT TO EXCEED 0.13 PER SIDE. THESE DIMENSIONS ARE TO BE MEASURED AT OUTERMOST EXTREME OF THE PLASTIC BODY.
5. DIMENSION b2 DOES NOT INCLUDE DAMBAR PROTRUSION. LEAD WIDTH INCLUDING PROTRUSION SHALL NOT EXCEED 2.00.
6. CONTOURS AND FEATURES OF THE MOLDED PACKAGE BODY MAY VARY WITHIN THE ENVELOPE DEFINED BY DIMENSIONS A1 AND H1 FOR MANUFACTURING PURPOSES.

DIM	MILLIMETERS	
	MIN	MAX
A	4.30	4.70
A1	2.50	2.90
A2	2.50	2.90
b	0.54	0.84
b2	1.10	1.40
c	0.49	0.79
D	14.70	15.30
E	9.70	10.30
e	2.54 BSC	
H1	6.60	7.10
L	12.50	14.73
L1	---	2.80
P	3.00	3.40
Q	2.80	3.20



**Reliability Data Summary:**

QV DEVICE NAME: MURF1660T3G (Mesa Ultrafast)

RMS: V54097, O56080

PACKAGE: TO220FP

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta= 150°C, 80% max rated V	1008 hrs	0/77
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta= +25°C, delta Tj= 100°C On/off= 3.5 min	8572 cyc	0/77
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/77
H3TRB	JESD22-A101	85°C, 85% RH, bias V = 100V max.	1008 hrs	0/77
UHASt	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
RSH	JESD22- B106	Ta= 265°C, 10 sec		0/30
SD	JSTD002	Ta= 245°C, 10 sec		0/15
TES	MIL STD 750 method 2036			0/10

QV DEVICE NAME: MBRF20200CTG (Planar Schottky)

RMS: V54092, O56079

PACKAGE: TO220FP

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta= 90°C, 80% max rated V	1008 hrs	0/231
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/231
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta= +25°C, delta Tj= 100°C On/off= 3.5 min	8572 cyc	0/231
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/231
H3TRB	JESD22-A101	85°C, 85% RH, bias V = 100V max.	1008 hrs	0/231
UHASt	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
RSH	JESD22- B106	Ta= 265°C, 10 sec		0/90
SD	JSTD002	Ta= 245°C, 10 sec		0/45
TES	MIL STD 750 method 2036			0/30

Electrical Characteristic Summary:

Electrical characteristics are not impacted

**List of Affected Parts:**

Note: Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the [PCN Customized Portal](#).

Part Number	Qualification Vehicle
MBRF10H150CTG	MBRF20200CTG
MBRF10L60CTG	MBRF20200CTG
MBRF20100CTG	MBRF20200CTG
MBRF20200CTG	MBRF20200CTG
MBRF2045CTG	MBRF20200CTG
MBRF2060CTG	MBRF20200CTG
MBRF20H150CTG	MBRF20200CTG
MBRF20L45CTG	MBRF20200CTG
MBRF20L60CTG	MBRF20200CTG
MBRF2545CTG	MBRF20200CTG
MBRF30H100CTG	MBRF20200CTG
MBRF30L45CTG	MBRF20200CTG
MBRF30L60CTG	MBRF20200CTG
MBRF40250TG	MBRF20200CTG
MURF1620CTG	MURF1660CTG
MURF1660CTG	MURF1660CTG
MURHF860CTG	MURF1660CTG

Japanese translation of the notification starts here.
通知の日本語訳はここから始まります。

Note: *The Japanese version is for reference only. In case of any differences between the English and Japanese version, the English version shall control.*

注：日本語版は参照用です。英語版と日本語版の違いがある場合は、英語版が優先されます。



最終製品 / プロセス変更通知

文書番号# : FPCN22586X

発行日 : 22 May 2019

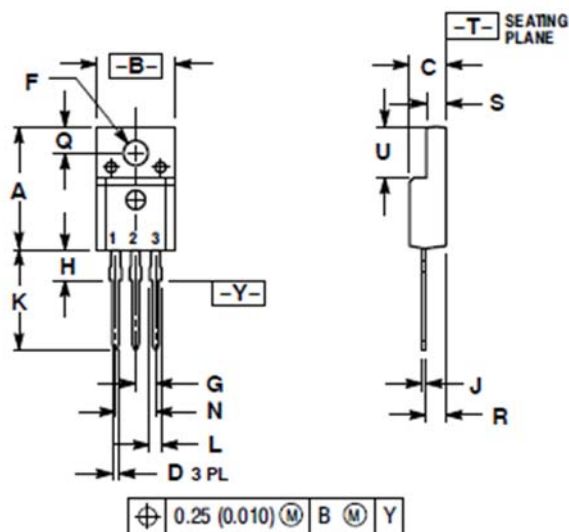
変更件名:	TO220FP パッケージの Ultrafast and Planar Schottky 製品の組立および検査工場の、オン・セミコンダクター ベトナム (OSV) から SP Semiconductor & Communication Co., Ltd (SP Semi) への移管、およびケース外形の変更。																			
初回出荷予定日:	29 August 2019																			
連絡先情報:	現地のオン・セミコンダクター営業所または <Phuong.Hoang@onsemi.com> にお問い合わせください。																			
サンプル:	現地のオン・セミコンダクター営業所または <PCN.Samples@onsemi.com> にお問い合わせください。 サンプルは、この変更の初回通知、初回 PCN の日付から 30 日以内に要求してください。 サンプル納入時は、依頼日、数量、特別梱包材/ラベル条件によって異なります。																			
追加の信頼性データ:	お客さまの地域のオン・セミコンダクター営業所または <Tam.Vu@onsemi.com> にお問い合わせください。																			
通知種別:	これは、お客様宛の最終製品 / プロセス変更通知 (FPCN) です。FPCN は、変更実施の 90 日前に発行されます。 オン・セミコンダクターは、この通知の送付から 30 日以内に書面による問い合わせがない限り、この変更が承諾されたものとみなします。お問い合わせは、<PCN.Support@onsemi.com> 宛てにお願いします。																			
変更部品の識別:	SP Semi からの製品には、日付コードの前に拠点コード「SP」が捺印されます。																			
変更カテゴリ:	☐ ウェハファブの変更 ☒ アセンブリの変更 ☒ 試験の変更 ☐ その他																			
変更サブカテゴリ:	☐ 製造拠点の追加 ☒ 材料の変更 ☐ データシート/製品資料の変更 ☒ 製造拠点の移転 ☐ 製品仕様の変更 ☒ 出荷/パッケージング/表記 ☐ 製造プロセスの変更 ☐ その他:																			
影響を受ける拠点:	オン・セミコンダクター拠点: オン ドンナイ省 (ベトナム)	外部製造工場 / 下請業者拠点: SP Semiconductor & Communication																		
説明および目的: This FPCN announces the planned assembly and test operations transfer of TO-220FP packaged Mesa Ultrafast, Planar Schottky Rectifier products. The products are currently built in ON Semiconductor Vietnam (OSV). Upon expiration of the FPCN, all products listed here will be transferred to SP semi with case outline change.																				
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拠点コード	VN	SP																		



ケース外形の比較

TO-220 FULLPAK

CASE 221D-03 (SP Semi)



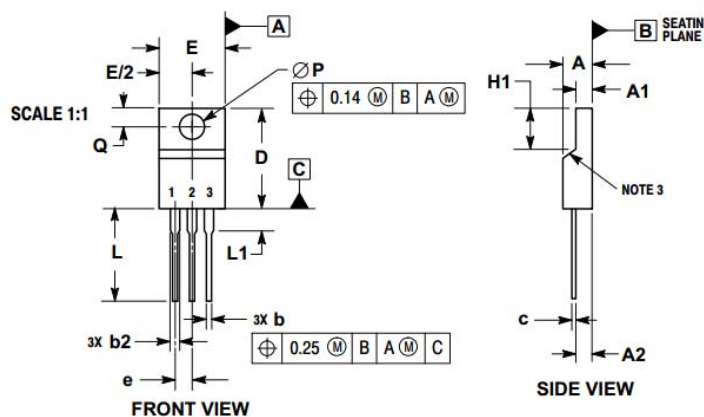
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TO-220 FULLPAK

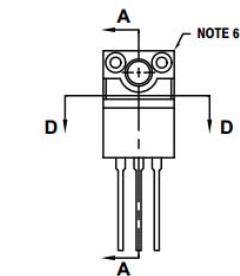
CASE 221AH (OSV)



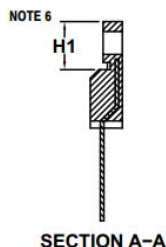
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DIM	MILLIMETERS	
	MIN	MAX
A	4.30	4.70
A1	2.50	2.90
A2	2.50	2.90
b	0.54	0.84
b2	1.10	1.40
c	0.49	0.79
D	14.70	15.30
E	9.70	10.30
e	2.54 BSC	
H1	6.60	7.10
L	12.50	14.73
L1	---	2.80
P	3.00	3.40
Q	2.80	3.20



ALTERNATE CONSTRUCTION



SECTION A-A



信頼性データの要約:

デバイス名: MURF1660T3G (Mesa Ultrafast)

RMS: V54097, O56080

パッケージ: TO220FP

テスト	仕様	条件	間隔	結果
HTRB	JESD22-A108	Ta= 150°C, 80% max rated V	1008 hrs	0/77
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta= +25°C, delta Tj= 100°C On/off= 3.5 min	8572 cyc	0/77
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/77
H3TRB	JESD22-A101	85°C, 85% RH, bias V = 100V max.	1008 hrs	0/77
UHASt	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
RSH	JESD22- B106	Ta= 265°C, 10 sec		0/30
SD	JSTD002	Ta= 245°C, 10 sec		0/15
TES	MIL STD 750 method 2036			0/10

デバイス名: MBRF20200CTG (Planar Schottky)

RMS: V54092, O56079

パッケージ: TO220FP

テスト	仕様	条件	間隔	結果
HTRB	JESD22-A108	Ta= 90°C, 80% max rated V	1008 hrs	0/231
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/231
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta= +25°C, delta Tj= 100°C On/off= 3.5 min	8572 cyc	0/231
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H3TRB	JESD22-A101	85°C, 85% RH, bias V = 100V max.	1008 hrs	0/231
UHASt	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
RSH	JESD22- B106	Ta= 265°C, 10 sec		0/90
SD	JSTD002	Ta= 245°C, 10 sec		0/45
TES	MIL STD 750 method 2036			0/30

**電气的特性の要約:**

電气的特性への影響はありません。

影響を受ける部品の一覧:

注: 部品一覧には標準部品番号 (既製品) のみが記載されています。本 PCN の影響を受けるカスタム部品番号は、PCN メールで提供される顧客個別の付録、または PCN カスタマイズポータルに記載されています。

部品番号	認定試験用ピークル
MBRF10H150CTG	MBRF20200CTG
MBRF10L60CTG	MBRF20200CTG
MBRF20100CTG	MBRF20200CTG
MBRF20200CTG	MBRF20200CTG
MBRF2045CTG	MBRF20200CTG
MBRF2060CTG	MBRF20200CTG
MBRF20H150CTG	MBRF20200CTG
MBRF20L45CTG	MBRF20200CTG
MBRF20L60CTG	MBRF20200CTG
MBRF2545CTG	MBRF20200CTG
MBRF30H100CTG	MBRF20200CTG
MBRF30L45CTG	MBRF20200CTG
MBRF30L60CTG	MBRF20200CTG
MBRF40250TG	MBRF20200CTG
MURF1620CTG	MURF1660CTG
MURF1660CTG	MURF1660CTG
MURHF860CTG	MURF1660CTG