

Product Change Notification (PCN)



N° LFPCN230310

Date: March 10th, 2023

Subject: *PCN for FO-A Power Modules Inhouse Assembly Location Transfer
(Refer to the list of affected parts in page 4)*

Dear Valued Customer,

After the successful relocation of our TO-240, Y4 and Y1 product families in 2020, 2021 and 2022, Littelfuse would like to notify you about the transfer of the backend manufacturing of our FO-A package parts to our inhouse assembly factory in Lipa, Philippines.

This new Littelfuse facility combines the very best operational excellence and semiconductor expertise to deliver a highly automated, world class facility designed, to meet IATF16949 & VDA6.3 requirements. Our clear focus being to bring high levels of service to our customers and quality products to support future growth of the power semiconductor business.

Please find enclosed all details related to this PCN.

Important information for your attention and according to JEDEC STANDARD "JESD46":

- Please acknowledge receipt of this PCN. In your acknowledgement, you can grant approval or request additional information.
- Littelfuse will assume the change is acceptable if no acknowledgement is received within 30 days from the date of this PCN. Lack of any additional response within 90 days of PCN issuance further constitutes acceptance of change.

Your prompt reply will help Littelfuse to assure a smooth and well executed transition.

Your attention and response to this matter is greatly appreciated.

Thank you very much.

Best Regards,



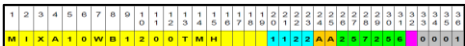
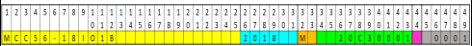


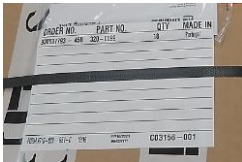
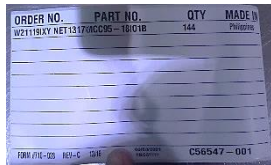
Mirko Vogelmann
Product Manager
Power Modules
mvogelmann@littelfuse.com

Contact Information:	Contact your local Littelfuse Sales Partner or Mirko Vogelmann.
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SUBJECT OF CHANGE:	FO-A Bipolar Power Modules – VBO13, VBO19, VBO20 and VBO25 types Inhouse Backend Assembly Location Transfer																									
PRODUCTS AFFECTED:	See page 4																									
REASON OF CHANGE:	State-of-the-art power semiconductor assembly capabilities to dramatically improve service levels to customers. Our target is to set this factory as a world class facility with automated, error proof processes to meet the highest quality standards.																									
DESCRIPTION OF CHANGE:	ACTUAL SITE	TRANSFERRED SITE – LIPA, Philippines																								
<ul style="list-style-type: none"> Marking (on parts) 																										
<ul style="list-style-type: none"> Company Logo 	IXYS Logo 	Littelfuse IXYS Logo 																								
<ul style="list-style-type: none"> UL Logo 	YES - NO CHANGE																									
<ul style="list-style-type: none"> Electrical Draw. + pin out 	YES - NO CHANGE																									
<ul style="list-style-type: none"> Date code + Site Assy code 	YYWWG	YYWWM																								
<ul style="list-style-type: none"> Catalog Part Number 	YES - NO CHANGE																									
<ul style="list-style-type: none"> Lot Number 	6 digit = xxxxxx Lot sequential number (000001 – 999999)	8 digit = YYMDDxxx YY= 2 last digit of the year, M = Month (A=Jan, L=Dec), DD = Day, xxx = Lot sequential (001-999) reset to 001 every day																								
<ul style="list-style-type: none"> 2D Matrix 	36 characters  <table border="1"> <tr> <td>1st to 19th digit</td> <td>Official product part number</td> </tr> <tr> <td>20th to 23rd digit</td> <td>Date Code (YYWW)</td> </tr> <tr> <td>24th to 25th digit</td> <td>Assembly line</td> </tr> <tr> <td>26th to 31st digit</td> <td>Lot number</td> </tr> <tr> <td>32nd digit</td> <td>Split lot / extra digit for future reference</td> </tr> <tr> <td>33rd to 36th digit</td> <td>Individual module number within one lot</td> </tr> </table>	1st to 19th digit	Official product part number	20th to 23rd digit	Date Code (YYWW)	24th to 25th digit	Assembly line	26th to 31st digit	Lot number	32nd digit	Split lot / extra digit for future reference	33rd to 36th digit	Individual module number within one lot	49 characters  <table border="1"> <tr> <td>1st to 25th digit</td> <td>Official product part number</td> </tr> <tr> <td>26th to 31st digit</td> <td>Date code (YYWW)</td> </tr> <tr> <td>32nd to 33rd digit</td> <td>Assembly Line</td> </tr> <tr> <td>34th to 43rd digit</td> <td>Lot Number</td> </tr> <tr> <td>44th digit</td> <td>Extra digit for future reference</td> </tr> <tr> <td>45th to 49th digit</td> <td>Individual Module number within one lot</td> </tr> </table>	1st to 25th digit	Official product part number	26th to 31st digit	Date code (YYWW)	32nd to 33rd digit	Assembly Line	34th to 43rd digit	Lot Number	44th digit	Extra digit for future reference	45th to 49th digit	Individual Module number within one lot
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<ul style="list-style-type: none"> Labelling (on packing) 																										
<ul style="list-style-type: none"> Inner Box 																										
<ul style="list-style-type: none"> 2D Sequence 	Product Code - Type - Date Code - Lot No. - Qty - Label	Type – Date Code – Lot No. – Qty – Label																								
<ul style="list-style-type: none"> Master/Outer Box 																										
<ul style="list-style-type: none"> Bill of material 	NO CHANGE																									
<ul style="list-style-type: none"> Electrical characteristics 	Electrical characteristics of qualification site matched to current production site																									
<ul style="list-style-type: none"> Mechanical characteristics 	Mechanical characteristics of qualification site matched to current production site																									

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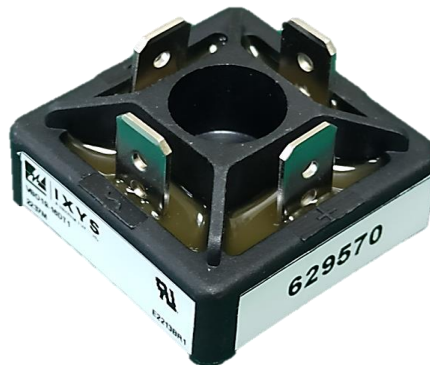
RELIABILITY DATA SUMMARY:

- Qualification done on module part VBO19-16DT1 structurally representative to the whole FO-A Bipolar modules package family
- The acceptance defining criteria for type tests of this product family are detailed in:
IEC 60747-6 Edition 3.0, clause 7.5.5, table 10

Results:	Test	Description	Conditions	Standard Use	# Lots	Qty/Lot	Result
VBO19-16DT1							
1	HTRB	High Temp. Rev. Bias	1000hr., 125°C, 1120 V AC	IEC 60749-23	3	10	Passed
2	Humidity	High Temp. High Humidity Bias	1000hr., 85% rH., 85°C	IEC 60749-42	3	10	Passed
3	T/C	Temperture Cycling	100 cycles, -40°C/+150°C	IEC 60749-25	3	10	Passed
4	P/C	Power Cycling	20 000 cycles, dT=80K	IEC 60749-34	3	10	Passed
5	ITSM	Surge Current	Datasheet		3	10	Passed

TIME SCHEDULE:

- Parts availability: *Starting from the week of March 10th, 2023 (Week 10/2023)*
- Production ramp-up: *Starting from the week of March 10th, 2023 (Week 10/2023)*



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ASSESSMENT:

- No influence in terms fit, form and function.
- No part number change.
- Data sheets remain unchanged.
- LF Qualification report available by March 17th

LIST OF AFFECTED FO-A BIPOLAR MODULES

1	VBO19-16DT1
2	VBO25-12NO2
3	VBO25-16AO2
4	VBO25-16NO2

Customer information:

Forward-looking statements are intended to provide information about our expected future operations. These statements are not promises or guarantees, particularly with respect to any timelines provided in the schedule. All terms of delivery and rights to technical changes are subject to alteration by Littelfuse.