8755 W. Higgins Road
Suite 500
Chicago, Illinois USA 60631

Feb 21st, 2021

RE: PCN # ESU270-76 –AQ24CANFD-02HTG, AQ24CANA-02HTG and SM24CANA-02HTG additional backend location approval

To our valued customers,

Littelfuse would like to notify you of an additional approved backend location for AQ24CANFD-02HTG, AQ24CANA-02HTG and SM24CANA-02HTG TVS Diode Array (SPA® Diodes) products. This new additional backend factory in Malaysia is fully approved for all assembly, test, and packing operations. There are no changes to fit, form, and function of the finished product.

Qualification efforts are complete, and the new factory is ramping for shipments. Please see the documentation in the following pages for change details.

Products Affected:

Part Number
AQ24CANFD-02HTG
AQ24CANA-02HTG
SM24CANA-02HTG

The affected products have been fully qualified in accordance with established performance and reliability criteria. Full qualification data and/or samples will be available upon request.

Form, fit, function changes: None
Part number changes: None
Effective date: Feb 21st, 2022
Replacement products: N/A
Last time buy: N/A

This notification is for your information and acknowledgement. If you have any other questions or concerns, please contact Sophia Hu, Assistant Product Manager.

We value your business and look forward to assisting you whenever possible.

Best Regards,

Sophia Hu
TVS Diode Array Assistant Product Manager
Semiconductor Business Unit, Wuxi, China
+86 510 85277701 - 7653
shu@littelfuse.com

PCN# :	**Contact Information**
ESU270-76 Date: Feb 21st, 2021 Product Identification : AQ24CANFD-02HTG, AQ24CANA-02HTG and SM24CANA-02HTG TVS Diode Array Product additional backend location approval Implementation Date for Change: Feb 21st, 2021	Name: Sophia Hu Title: Assistant Product Manager Phone # : +86 13771377277 Fax# : N/A E-mail : shu@littelfuse.com

Category of Change:

- ☐ Assembly Process
- ☒ Data Sheet
- ☐ Technology
- ☐ Discontinuance/Obsolescence
- ☐ Equipment
- ☒ Manufacturing Site
- ☒ Raw Material
- ☐ Testing
- ☐ Fabrication Process
- ☐ Other: _____

Description of Change:

Approve additional backend assembly, test, and packing location for AQ24CANFD-02HTG, AQ24CANA-02HTG and SM24CANA-02HTG. There are no changes to fit, form & function of the finished product.

Important Dates:

- ☒ Qualification Samples Available: Upon request
- ☐ Last Time Buy:
- ☒ Final Qualification Data Available: Upon request
- ☐ Date of Final Product Shipment:

Method of Distinguishing Changed Product

- ☒ Product Mark, See (8.0) in the succeeding PCN report for details
- ☐ Date Code,
- ☐ Other,

Demonstrated or Anticipated Impact on Form, Fit, Function or Reliability:

N/A

LF Qualification Plan/Results:

Yes

Customer Acknowledgement of Receipt: Littelfuse requests you 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 of this notice. Lack of any additional response within 90 days of PCN issuance further constitutes acceptance of the change.

Prepared By : Jordan Hsieh-Product Engineering Manager,
Raider Chen-Product Engineer, Sophia Hu- Assistant Product Manager
Date : 2022/2/16
Device : Please refer to 2.1 table.
Revision : A

1.0 Objective:

Qualify an alternative assembly supplier for AQ24CANFD-02HTG, AQ24CANA-02HTG and SM24CANA-02HTG. Summarize the physical items, electrical characteristics and reliability result of qualification lots.

2.0 Applicable Devices:

2.1 Product name:

Part Number
AQ24CANFD-02HTG
AQ24CANA-02HTG
SM24CANA-02HTG

3.0 Assembly, Process & Material Differences/Changes:

3.1 Assembly Changes
No change of assemble process.

3.2 Process Changes
No change of process method.

3.3 Material Change

AQ24CANFD-02HTG			
Item	Original (V)	New (g)	Change or not
Lead frame	C194	CAC5	Yes
Die Attach Material	84-1LMISR4	84-1LMISR4	No
Wire	0.8mil Au	0.8mil Au	No
Mold Compound	Sumitomo G600	Sumitomo G600	No
Plating	Matte Tin	Matte Tin	No

AQ24CANA-02HTG, SM24CANA-02HTG			
Item	Original (F)	New (g)	Change or not
Lead frame	CAC5	CAC5	No
Die Attach Material	84-1LMISR4	84-1LMISR4	No
Wire	0.8mil Au	0.8mil Au	No
Mold Compound	Sumitomo G600	Sumitomo G600	No
Plating	Matte Tin	Matte Tin	No

4.0 Packing Method

No change of packing method.

5.0 Physical Differences/Changes:

Symbol	AQ24CANFD-02HTG Current			AQ24CANFD-02HTG New		
	MIN	TYP	MAX	MIN	TYP	MAX
A	0.89	---	1.17	0.90	---	1.15
A1	0.01	---	0.15	0.00	---	0.10
A2	0.88	0.95	1.02	0.90	---	1.05
D	2.80	2.90	3.04	2.80	---	3.00
E	2.10	2.35	2.60	2.25	---	2.55
E1	1.20	1.30	1.40	1.20	---	1.40
e	0.95			0.95		
e1	1.90			1.80	---	2.00
L	0.54			0.55		
L1	0.28	0.44	0.60	0.30	---	0.50
θ	0°	---	8°	0°	---	8°

Symbol	AQ24CANA-02HTG SM24CANA-02HTG Current			AQ24CANA-02HTG, SM24CANA-02HTG New		
	MIN	TYP	MAX	MIN	TYP	MAX
A	0.90	1.00	1.11	0.90	---	1.15
A1	0.013	---	0.10	0.00	---	0.10
A2				0.90	---	1.05
D	2.80	2.90	3.04	2.80	---	3.00
E	2.10	2.40	2.64	2.25	---	2.55
E1	1.20	1.30	1.40	1.20	---	1.40
e	0.95			0.95		
e1	1.90			1.80	---	2.00
L	0.55			0.55		
L1	0.30		0.50	0.30	---	0.50
θ	0°	---	8°	0°	---	8°

6.0 Reliability Test Results Summary:

6.1 AQ24CANFD-02HTG, AQ24CANA-02HTG and SM24CANA-02HTG summary report:

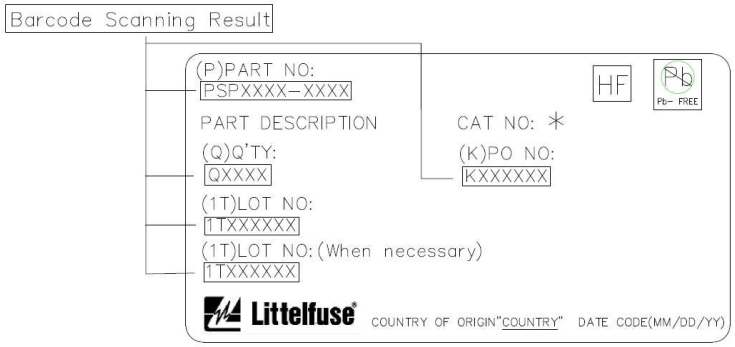
Test Items	Condition	S/S	Results	ETR #
Pre-conditioning (PC)	JESD22-A113	308 each lot	0/1848	168157 168159 168160 168651 168654 168655
DC Blocking (HTRB)	Bias = VRWM, Ta = 150°C, Duration = 1008 Hours	77 each lot	0/462	
Temperature Cycle (TC)	Ta = -55°C to 150°C, Duration = 1000 Cycles	77 each lot	0/462	
Temperature/Humidity (H3TRB)	Ta = 85°C, 85% RH, Bias = VRWM, Duration = 1008 Hours	77 each lot	0/462	
Autoclave (AC)	Ta = 121°C, 100%RH, 2ATM, Duration = 96 Hours	77 each lot	0/462	
Resistance to Solder Heat (RSH)	260°C, 10 sec, M-2031	10 each lot	0/60	
Moisture Sensitivity Level (MSL)	Per Jedec J-STD-020D Level 1	308 each lot	0/1848	
Solderability (SD)	ANSI-J-STD-002	10 each lot	0/60	

7.0 Electrical Characteristic Summary:

Electrical performance were comparable and characterization data is available upon request.

8.0 Changed Part Identification:

All were qualified suppliers, and it can be identified by CAT NO on the label.



9.0 Approvals:

Sophia Hu	**Jordan Hsieh**	**Raider Chen**
SPA Assistant Product Manager	**SPA Product Manager**	**SPA Product Engineer**
Littelfuse, Wuxi	**Littelfuse, HsinChu**	**Littelfuse, HsinChu**