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May 9th, 2023

[Phase 2] ESW490-42 – IXYS Brand Schottky Diode Discrete Alternative Qual Status

To our valued customers,

Littelfuse would like to notify the completion of Phase 2 IXYS Brand Schottky Diode Alternative Qualification and would like to supply the latest datasheets for the 76 parts in Phase 2 group through Littelfuse Website.

[Discrete Schottky - Littelfuse](#)

All 76 parts have been fully qualified in accordance with established performance and reliability criteria. The attached pages summarize the qualification results. Full qualification data and/or samples will be available upon request.

- Form, fit, function changes:** There will be changes on alternative parts. Pls refer to latest datasheets.
- Part number changes:** None
- Effective date:** Jun 10th, 2023
- Replacement products:** N/A
- Last time buy:** N/A

Below is the latest status for the rest of Schottky Diode Qualification groups:

	PCN Time	Qualification
Phase 1	Nov-22	Completed
Phase 2	May-23	Completed
Phase 3/4	Q1'24	Ongoing

If you have any questions or concerns, please contact your local sales team or Zhiwei Wang, Power Bipolar Discrete, Product Marketing Manager.

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

Thank you very much!

Zhiwei Wang

Best Regards,

Zhiwei Wang
Product Marketing Manager of Power Bipolar Discrete
Semiconductor Business Unit, Reading, United Kingdom
[Appendix A: Qualification Report for Phase1 Schottky Diode Discrete Alternative Qual](#)

Schottky Diode Qualification Summary

Supplier: Littelfuse, Inc

Family Type: Schottky Diode

Barrier Type: SA, NiCrPt

#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	85mil, 60V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-220FP	JSED22-A-102	1	22	0 Failure
2	TC	85mil, 60V	-55~150°C,1000cycles	TO-220FP	JSED22-A-104	1	22	0 Failure
3	THS	85mil, 60V	TA=85°C,RH=85% for 1000hrs	TO-220FP	JESD22-A-110	1	22	0 Failure
4	HTS	85mil, 60V	TA=150°C for 1000Hrs	TO-220FP	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	85mil, 60V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-220FP	MIL-STD-750Method 1038	1	22	0 Failure
6	IOL	121mil, 120V	ΔTj>=100c, 2minutes ON/2 minutes OFF, 15000cycles	TO-220FP	MIL-STD-750 Method 1037	1	22	0 Failure
7	IOL	120mil, 120V	ΔTj>=100c, 2minutes ON/2 minutes OFF, 15000cycles	TO-220AB	MIL-STD-750 Method 1037	1	22	0 Failure
8	IOL	71mil, 100V	ΔTj>=100c, 2minutes ON/2 minutes OFF, 15000cycles	TO-252	MIL-STD-750 Method 1037	1	22	0 Failure
9	IOL	145mil, 100V	ΔTj>=100c, 2minutes ON/2 minutes OFF, 15000cycles	TO-263	MIL-STD-750 Method 1037	1	22	0 Failure

Barrier Type: SN/SG, NiPt, SN>100V, SG<100V

#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	170mil, 150V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-220AC	JSED22-A-102	1	22	0 Failure
2	TC	170mil, 150V	-55~150°C,1000cycles	TO-220AC	JSED22-A-104	1	22	0 Failure
3	THS	170mil, 150V	TA=85°C,RH=85% for 1000hrs	TO-220AC	JESD22-A-110	1	22	0 Failure
4	HTS	170mil, 150V	TA=150°C for 1000Hrs	TO-220AC	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	170mil, 150V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-220AC	MIL-STD-750Method 1038	1	22	0 Failure

1	PCT	91mil, 150V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-220AB	JSED22-A-102	1	22	0 Failure
2	TC	91mil, 150V	-55~150°C,1000cycles	TO-220AB	JSED22-A-104	1	22	0 Failure
3	THS	91mil, 150V	TA=85°C,RH=85% for 1000hrs	TO-220AB	JESD22-A-110	1	22	0 Failure
4	HTS	91mil, 150V	TA=150°C for 1000Hrs	TO-220AB	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	91mil, 150V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-220AB	MIL-STD-750Method 1038	1	22	0 Failure

1	PCT	71mil, 200V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-252	JSED22-A-102	1	22	0 Failure
2	TC	71mil, 200V	-55~150°C,1000cycles	TO-252	JSED22-A-104	1	22	0 Failure
3	THS	71mil, 200V	TA=85°C,RH=85% for 1000hrs	TO-252	JESD22-A-110	1	22	0 Failure
4	HTS	71mil, 200V	TA=150°C for 1000Hrs	TO-252	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	71mil, 200V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-252	MIL-STD-750Method 1038	1	22	0 Failure

1	PCT	121mil, 100V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-263	JSED22-A-102	1	22	0 Failure
2	TC	121mil, 100V	-55~150°C,1000cycles	TO-263	JSED22-A-104	1	22	0 Failure
3	THS	121mil, 100V	TA=85°C,RH=85% for 1000hrs	TO-263	JESD22-A-110	1	22	0 Failure
4	HTS	121mil, 100V	TA=150°C for 1000Hrs	TO-263	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	121mil, 100V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-263	MIL-STD-750Method 1038	1	22	0 Failure

1	IOL	121mil, 100V	ΔTj>=100c, 2minutes ON/4 minutes OFF, 10000cycles	TO-247AD	MIL-STD-750 Method 1037	1	22	0 Failure
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Barrier Type: SC, Pt

#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	170mil, 150V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-247AD	JSED22-A-102	1	22	0 Failure
2	TC	170mil, 150V	-55~150°C,1000cycles	TO-247AD	JSED22-A-104	1	22	0 Failure
3	THS	170mil, 150V	TA=85°C,RH=85% for 1000hrs	TO-247AD	JESD22-A-110	1	22	0 Failure
4	HTS	170mil, 150V	TA=150°C for 1000Hrs	TO-247AD	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	170mil, 150V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-247AD	MIL-STD-750Method 1038	1	22	0 Failure

1	IOL	88mil, 100V	ΔTj>=100c, 2minutes ON/2 minutes OFF, 15000cycles	SMC	MIL-STD-750 Method 1037	1	22	0 Failure
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Barrier Type: SD/SF, Cr

#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	170mil, 15V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-220AC	JSED22-A-102	1	22	0 Failure
2	TC	170mil, 15V	-55~150°C,1000cycles	TO-220AC	JSED22-A-104	1	22	0 Failure
3	THS	170mil, 15V	TA=85°C,RH=85% for 1000hrs	TO-220AC	JESD22-A-110	1	22	0 Failure
4	HTS	170mil, 15V	TA=150°C for 1000Hrs	TO-220AC	MIL-STD-750Method 1031	1	22	0 Failure

Barrier Type: SE, NiCr

#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	50mil, 45V	15 PSIG,TA=121°C,RH=100%,96HRS	SMAF	JSED22-A-102	1	22	0 Failure
2	TC	50mil, 45V	-55~150°C,1000cycles	SMAF	JSED22-A-104	1	22	0 Failure
3	THS	50mil, 45V	TA=85°C,RH=85% for 1000hrs	SMAF	JESD22-A-110	1	22	0 Failure
4	HTS	50mil, 45V	TA=150°C for 1000Hrs	SMAF	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	50mil, 45V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	SMAF	MIL-STD-750Method 1038	1	22	0 Failure

Remark:

1. Reliability Test was correlated to chip technology and package.
2. IOL Test applicable for automotive products only.
3. For the Cr barrier product, HTRB is not applicable due to high leakage.



[Appendix B : Phase 2 Schottky Diode Part Number List](#)

	Phase2 affect PN list
1	DSS25-0045A
2	DSS16-01AS-TRL
3	DSSK28-006BS-TRL
4	DSS6-015AS-TUB
5	DSA20C100PB
6	DSB10I45PM
7	DSB30C60PB
8	DSA15IM45IB
9	DSB20C60PN
10	DSA30C60PB
11	DSSK20-0045B
12	DSA60C100PB
13	DSA30C100PN
14	DSS10-01AS-TRL
15	DSS16-0045A
16	DSSK10-018A
17	DSB30C30PB
18	DSB60C60PB
19	DSA60C45PB
20	DSA30C100QB
21	DSB20I15PA
22	DSSK38-0025BS-TRL
23	DSA60C60PB
24	DSSK16-01AS-TUB
25	DSA30C100PB
26	DSA30C45PC-TRL
27	DSS16-0045AS-TRL
28	DSS10-006A
29	DSA30C45PB
30	DSSK38-0025B
31	DSA10I100PM
32	DSA15IM200UC-TUB
33	DSSK28-006BS-TUB
34	DSS25-0025B
35	DSA20C100PN
36	DSB60C30PB
37	DSA20C200PB

38	DSS6-0045AS-TUB
39	DSA15I45PA
40	DSS16-01AS-TUB
41	DSA15IM150UC-TUB
42	DSA30C150PC-TUB
43	DSA30C200PC-TUB
44	DSB15IM30UC-TUB
45	DSSK48-003BS-TUB
46	DSA10C150PB
47	DSA15IM150UC-TRL
48	DSA20C45PB
49	DSA30C200IB
50	DSB15IM30UC-TRL
51	DSB15IM45IB
52	DSB30C45PB
53	DSB60C45PB
54	DSS10-01AS-TUB
55	DSS16-0045AS-TUB
56	DSS6-0025BS-TRL
57	DSSK16-01A
58	DSSK28-0045BS-TUB
59	DSSK28-01AS-TUB
60	DSA10IM100UC-TRL
61	DSA10IM100UC-TUB
62	DSA15IM45UC-TRL
63	DSA15IM45UC-TUB
64	DSA20C60PB
65	DSSK18-0025BS-TRL
66	DSSK18-0025BS-TUB
67	DSA10C150UC-TRL
68	DSA10C150UC-TUB
69	DSA30C150PC-TRL
70	DSA30C200PC-TRL
71	DSA30C45PC-TUB
72	DSS6-0025BS-TUB
73	DSSK16-01AS-TRL
74	DSSK28-0045BS-TRL
75	DSSK38-0025BS-TUB
76	DSSK48-003BS-TRL