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Mar 15, 2022

LFPCNUSA2022-002

Product Change Notification for Littelfuse

MOSFET DISCRETE, IGBT DISCRETE, Thyristor and Diodes in TO-247 package add new manufacturing location

To whom it may concern,

Littelfuse would like to notify you of a change related to the TO-247 package

DESCRIPTION OF CHANGE: As a part of Littelfuse endeavors to improve the manufacturing footprint, it has been decided to introduce a new TO-247 backend manufacturing ASEWH in China for the affected part numbers listed below. With this additional capacity to support the upcoming customer demands.

Country of origin for TO247 will possibly be Korea, Philippines and China

Form, fit, function changes: No change in the silicon dice used. We would like to notify you on the differences between the existing manufacture and new manufacture.

1. POD – Package Outline Dimension
2. Package Marking
3. BOM
4. Label

Details can be seen in **APPENDIX A**.

Affected part number list can be found in **APPENDIX B**.

If you have any additional questions or concerns, please contact me or your Regional Sales Manager.

Best Regards,

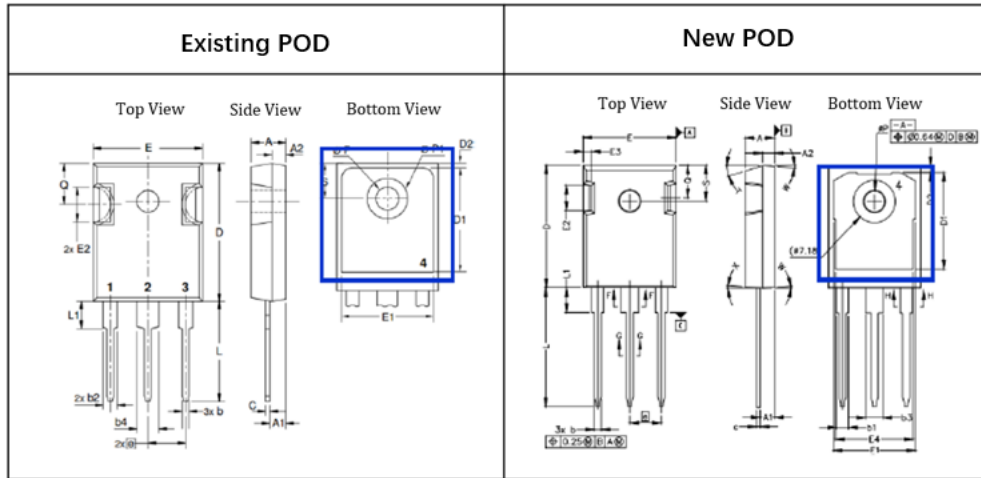
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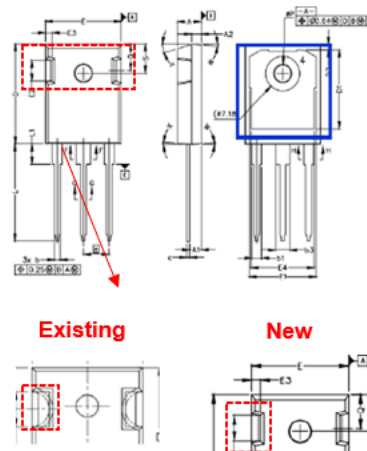
July Chen
Product Manager
IGBT DISCRETE
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APPENDIX A:

1. POD – Package Outline Dimension



Items	Existing POD		New POD		Remark
	Min	Max	Min	Max	
A	4.70	5.30	4.83	5.21	
A1	2.21	2.59	2.29	2.54	
A2	1.50	2.49	1.91	2.16	
D	20.79	21.45	20.80	21.10	
E	15.48	16.24	15.75	16.13	
E2	4.31	5.48	3.68	5.10	Body Notch Area
e	5.46BSC		5.44BSC		
L	19.80	20.30	19.81	20.32	Lead Length
L1	-	4.49	4.10	4.40	
ΦP	3.55	3.65	3.51	3.65	
Q	5.38	6.19	5.49	6.00	
S	6.14BSC		6.04	6.30	
b	0.99	1.40	1.07	1.33	
b2	1.65	2.39	1.91	2.41	
b4	2.59	3.43	2.87	3.38	
c	0.38	0.89	0.55	0.68	
D1	13.07	-	16.25	17.65	
D2	0.51	1.35	0.95	1.25	
E1	13.45	-	12.38	13.43	
ΦP1	-	7.39	7.18BSC		





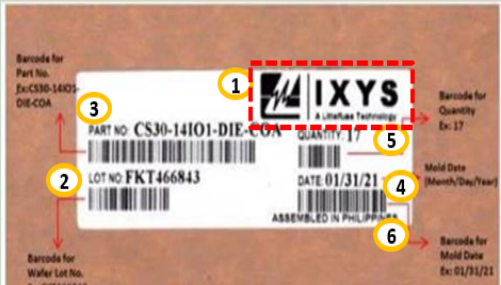

2. Package Marking

SPS		PKG	TO-247	Physical marking
		Marking line 1	IXYS logo	
		Marking line 2	Product name	
		Marking line 3	KOREA XXMMDDYY (XX:Foundry code+Assy plan Code, MM:Month, DD:Day, YY:Year)	
		Marking line 4	Wafer Lot no: XXXXXXXXXXX	
Remark	All marking lines align center except Date code			
ASE		PKG	TO-247	Physical marking
		Marking line 1	IXYS logo	
		Marking line 2	Product name	
		Marking line 3	CHINA XXMMDDYY (XX:Foundry code+Assy plan Code, MM:Month, DD:Day, YY:Year)	
		Marking line 4	Wafer Lot no: XXXXXXXXXXX	
Remark	All marking lines align center except Date code			
TPC		PKG	TO-247	Physical marking
		Marking line 1	IXYS logo	
		Marking line 2	Product name	
		Marking line 3	XXMMDDYY (XX:Foundry code+Assy plan Code, MM:Month, DD:Day, YY:Year)	
		Marking line 4	Wafer Lot no: XXXXXXXXXXX	
Remark	All marking lines align center except Date code			
ASE		PKG	TO-247	Physical marking
		Marking line 1	IXYS logo	
		Marking line 2	Product name	
		Marking line 3	CHINA XXMMDDYY (XX:Foundry code+Assy plan Code, MM:Month, DD:Day, YY:Year)	
		Marking line 4	Wafer Lot no: XXXXXXXXXXX	
Remark	All marking lines align center except Date code			

3. BOM

BOM Information		TO-247 BOM		
		SP Semi	TPC	ASE-TO247
EMC	Green/Non-Green	Non-Green EMC	Non-Green EMC	Green EMC
Lead Finish	Type	Pure Tin	Solder dip finish	Pure Tin Plated

4. Label

SPS	ASE
 <p>1. <u>Littelfuse+IXYS logo.</u> 2. <u>LOT NO: Wafer Lot No+Barcode</u> 3. <u>PART NO: PART NO+Barcode</u> 4. <u>DATE CODE: DATE:MMDDYY+Barcode</u> 5. <u>QTY: Total unit Qty of each Tueb/Reel/Box+Barcode</u> 6. Test fixed "ASSEMBLED IN Korea"</p>	 <p>1. <u>Littelfuse+IXYS logo.</u> 2. <u>LOT NO: Wafer Lot No+Barcode</u> 3. <u>PART NO: PART NO+Barcode</u> 4. <u>DATE CODE: DATE:MMDDYY+Barcode</u> 5. <u>QTY: Total unit Qty of each Tueb/Reel/Box+Barcode</u> 6. Test fixed "ASSEMBLED IN CHINA"</p>
TPC	ASE
 <p>1. <u>Littelfuse+IXYS logo.</u> 2. <u>LOT NO: Wafer Lot No+Barcode</u> 3. <u>PART NO: PART NO+Barcode</u> 4. <u>DATE CODE: DATE:MMDDYY+Barcode</u> 5. <u>QTY: Total unit Qty of each Tueb/Reel/Box+Barcode</u> 6. Test fixed "ASSEMBLED IN PHILIPPINES"</p>	 <p>1. <u>Littelfuse+IXYS logo.</u> 2. <u>LOT NO: Wafer Lot No+Barcode</u> 3. <u>PART NO: PART NO+Barcode</u> 4. <u>DATE CODE: DATE:MMDDYY+Barcode</u> 5. <u>QTY: Total unit Qty of each Tueb/Reel/Box+Barcode</u> 6. Test fixed "ASSEMBLED IN CHINA"</p>

Reliability test report:

Reliability Test Result Summary:							
#	Abrv	Qual vehicle #	Condition	Littelfuse Test Ref#	# of lot	Sample Qty	Results
1	Test	1	Per Datasheet conditions	159178	2	All	0 Failure
2	EV	1	Per JESD22B-101	159178	2	All	0 Failure
3	PV	1	Per Datasheet conditions	159178	2	50	0 Failure
4	HTRB	1	TA=125°C,80% of rated VDS/VCES for 1008hrs	159178	2	60	0 Failure
5	HTGB	1	TA=150°C,100% of rated VGS/GES for 1008hrs	159178	2	60	0 Failure
6	TC	1	Temp=-55°C~150°C, for 1000Cycles	159178	2	60	0 Failure
7	HAST	1	Ta=130°C, 85% RH, 80% rated or 42V max voltage for 96hrs	159178	2	60	0 Failure
8	IOL	1	Ta= 25C , Ton =Toff = 2 mins, Delta=>100°C, for 15000cycs	159178	2	60	0 Failure
9	AC/UHAST	1	121 °C, 29.7psia, 100% RH for 96hrs/ 130 °C, 33.3psia, 85% RH for 96hrs	159178	2	60	0 Failure
10	RSH	1	Tdwell=10 sec @ 260°C	162864	1	10	0 Failure
11	Solderability	1	5ea for method B(standard process, low temp) & method D	162864	1	5	0 Failure

#	Abrv	Qual vehicle #	Condition	Littelfuse Test Ref#	# of lot	Sample Qty	Results
1	Test	2	Per Datasheet conditions	159437	2	All	0 Failure
2	EV	2	Per JESD22B-101	159437	2	All	0 Failure
3	PV	2	Per Datasheet conditions	159437	2	50	0 Failure
4	HTRB	2	TA=125°C,80% of rated VDS/VGES for 1008hrs	159437	2	60	0 Failure
5	HTGB	2	TA=150°C,100% of rated VGS/GES for 1008hrs	159437	2	60	0 Failure
6	TC	2	Temp=-55°C~150°C, for 1000Cycles	159437	2	60	0 Failure
7	HAST	2	Ta=130°C, 85% RH, 80% rated or 42V max voltage for 96hrs	159437	2	60	0 Failure
8	IOL	2	Ta= 25C , Ton =Toff = 2 mins, Delta=>100°C, for 15000cycs	159437	2	60	0 Failure
9	AC/UHAST	2	121 °C, 29.7psia, 100% RH for 96hrs/ 130 °C, 33.3psia, 85% RH for 96hrs	159437	2	60	0 Failure
10	RSH	2	Tdwell=10 sec @ 260°C	162865	1	10	0 Failure
11	Solderability	2	5ea for method B(standard process, low temp) & method D	162865	1	5	0 Failure
#	Abrv	Qual vehicle #	Condition	Littelfuse Test Ref#	# of lot	Sample Qty	Results
1	Test	3	Per Datasheet conditions	159183	2	All	0 Failure
2	EV	3	Per JESD22B-101	159183	2	All	0 Failure
3	PV	3	Per Datasheet conditions	159183	2	50	0 Failure
4	HTRB	3	TA=125°C,80% of rated VDS/VGES for 1008hrs	159183	2	60	0 Failure
5	HTGB	3	TA=150°C,100% of rated VGS/GES for 1008hrs	159183	2	60	0 Failure
6	TC	3	Temp=-55°C~150°C, for 1000Cycles	159183	2	60	0 Failure
7	H3TRB/HAST	3	Ta=85°C, 85% RH, 80% rated or 100V max voltage for 1008hrs/ Ta=130°C, 85% RH, 80% rated or 42V max voltage for 96hrs	159183	2	60	0 Failure
8	IOL	3	Ta= 25C , Ton =Toff = 2 mins, Delta=>100°C, for 15000cycs	159183	2	60	0 Failure
9	AC/UHAST	3	121 °C, 29.7psia, 100% RH for 96hrs/ 130 °C, 33.3psia, 85% RH for 96hrs	159183	2	60	0 Failure
10	RSH	3	Tdwell=10 sec @ 260°C	162866	1	10	0 Failure
11	Solderability	3	5ea for method B(standard process, low temp) & method D	162866	1	5	0 Failure
#	Abrv	Qual vehicle #	Condition	Littelfuse Test Ref#	# of lot	Sample Qty	Results
1	Test	4	Per Datasheet conditions	159830	2	All	0 Failure
2	EV	4	Per JESD22B-101	159830	2	All	0 Failure
3	PV	4	Per Datasheet conditions	159830	2	50	0 Failure
4	HTRB	4	TA=125°C,80% of rated VDS/VGES for 1008hrs	159830	2	60	0 Failure
5	HTGB	4	TA=150°C,100% of rated VGS/GES for 1008hrs	159830	2	60	0 Failure
6	TC	4	Temp=-55°C~150°C, for 1000Cycles	159830	2	60	0 Failure
7	HAST	4	Ta=130°C, 85% RH, 80% rated or 42V max voltage for 96hrs	159830	2	60	0 Failure
8	IOL	4	Ta= 25C , Ton =Toff = 2 mins, Delta=>100°C, for 15000cycs	159830	2	60	0 Failure
9	AC/UHAST	4	121 °C, 29.7psia, 100% RH for 96hrs/ 130 °C, 33.3psia, 85% RH for 96hrs	159830	2	60	0 Failure
10	RSH	4	Tdwell=10 sec @ 260°C	162869	1	10	0 Failure
11	Solderability	4	5ea for method B(standard process, low temp) & method D	162869	1	5	0 Failure

APPENDIX B:

Part Number	Product series	Part Number	Product series	Part Number	Product series
CLA100E1200HB	POWER THYRISTOR DISC	DSI45-16A	POWER DIODE DISCRETE	IXFH60N65X2	MOSFET DISCRETE
CLA30E1200HB	POWER THYRISTOR DISC	DSP25-12A	POWER DIODE DISCRETE	IXFH67N10	MOSFET DISCRETE
CLA40E1200NHB	POWER THYRISTOR DISC	DSP25-16A	POWER DIODE DISCRETE	IXFH69N30P	MOSFET DISCRETE
CLA50E1200HB	POWER THYRISTOR DISC	DSP45-12A	POWER DIODE DISCRETE	IXFH70N20Q3	MOSFET DISCRETE
CLA60MT1200NHB	POWER THYRISTOR DISC	DSP45-16A	POWER DIODE DISCRETE	IXFH70N30Q3	MOSFET DISCRETE
CLA80E1200HF	POWER THYRISTOR DISC	DSP45-18A	POWER DIODE DISCRETE	IXFH72N30X3	MOSFET DISCRETE
CLA80MT1200NHB	POWER THYRISTOR DISC	DSS40-0008D	POWER DIODE DISCRETE	IXFH74N20P	MOSFET DISCRETE
CLB30I1200HB	POWER THYRISTOR DISC	DSS60-0045B	POWER DIODE DISCRETE	IXFH75N10	MOSFET DISCRETE
CLE40E1200HB	POWER THYRISTOR DISC	DSSK30-018A	POWER DIODE DISCRETE	IXFH75N10Q	MOSFET DISCRETE
CMA50E1600HB	POWER THYRISTOR DISC	DSSK30-01A	POWER DIODE DISCRETE	IXFH76N07-11	MOSFET DISCRETE
CMA60MT1600NHB	POWER THYRISTOR DISC	DSSK40-0015B	POWER DIODE DISCRETE	IXFH76N07-12	MOSFET DISCRETE
CMA80E1400HB	POWER THYRISTOR DISC	DSSK40-006B	POWER DIODE DISCRETE	IXFH76N15T2	MOSFET DISCRETE
CMA80E1600HB	POWER THYRISTOR DISC	DSSK40-008B	POWER DIODE DISCRETE	IXFH80N20Q	MOSFET DISCRETE
CMA80MT1600NHB	POWER THYRISTOR DISC	DSSK50-0025B	POWER DIODE DISCRETE	IXFH80N25X3	MOSFET DISCRETE
CS20-12IO1	POWER THYRISTOR DISC	DSSK50-015A	POWER DIODE DISCRETE	IXFH80N65X2	MOSFET DISCRETE
CS20-14IO1	POWER THYRISTOR DISC	DSSK50-01A	POWER DIODE DISCRETE	IXFH86N30T	MOSFET DISCRETE
CS20-14IO1-DIE-COA	POWER THYRISTOR DISC	DSSK60-0045A	POWER DIODE DISCRETE	IXFH88N30P	MOSFET DISCRETE
CS20-16IO1	POWER THYRISTOR DISC	DSSK60-0045B	POWER DIODE DISCRETE	IXFH90N20X3	MOSFET DISCRETE
CS20-16IO1-DIE-COA	POWER THYRISTOR DISC	DSSK60-015A	POWER DIODE DISCRETE	IXFH94N30P3	MOSFET DISCRETE
CS30-12IO1	POWER THYRISTOR DISC	DSSK60-02A	POWER DIODE DISCRETE	IXFH94N30T	MOSFET DISCRETE
CS30-14IO1	POWER THYRISTOR DISC	DSSK70-0015B	POWER DIODE DISCRETE	IXFH96N15P	MOSFET DISCRETE
CS30-14IO1-DIE-COA	POWER THYRISTOR DISC	DSSK70-003B	POWER DIODE DISCRETE	IXFH96N20P	MOSFET DISCRETE

CS30-16IO1	POWER THYRISTOR DISC	DSSK70-008A	POWER DIODE DISCRETE	IXFX180N07	MOSFET DISCRETE
CS30-16IO1-DIE-COA	POWER THYRISTOR DISC	DSSK80-0008D	POWER DIODE DISCRETE	IXGH30N60C3D1	IGBT DISCRETE
CS45-08IO1	POWER THYRISTOR DISC	DSSK80-0025B	POWER DIODE DISCRETE	IXGH48N60A3	IGBT DISCRETE
CS45-12IO1	POWER THYRISTOR DISC	DSSK80-003B	POWER DIODE DISCRETE	IXGH48N60B3D1	IGBT DISCRETE
CS45-16IO1	POWER THYRISTOR DISC	DSSK80-0045B	POWER DIODE DISCRETE	IXGH48N60C3D1	IGBT DISCRETE
CS60-12IO1	POWER THYRISTOR DISC	IXFH100N25P	MOSFET DISCRETE	IXGH60N60C3D1	IGBT DISCRETE
CS60-14IO1	POWER THYRISTOR DISC	IXFH100N30X3	MOSFET DISCRETE	IXGH72N60A3	IGBT DISCRETE
CS60-16IO1	POWER THYRISTOR DISC	IXFH102N15T	MOSFET DISCRETE	IXTH102N15T	MOSFET DISCRETE
DFE25I600HA	POWER DIODE DISCRETE	IXFH110N10P	MOSFET DISCRETE	IXTH10P50	MOSFET DISCRETE
DFE60C600AHB	POWER DIODE DISCRETE	IXFH110N15T2	MOSFET DISCRETE	IXTH10P50P	MOSFET DISCRETE
DH20-18A	POWER DIODE DISCRETE	IXFH110N25T	MOSFET DISCRETE	IXTH10P60	MOSFET DISCRETE
DH40-18A	POWER DIODE DISCRETE	IXFH120N15P	MOSFET DISCRETE	IXTH110N25T	MOSFET DISCRETE
DH60-14A	POWER DIODE DISCRETE	IXFH120N20P	MOSFET DISCRETE	IXTH11P50	MOSFET DISCRETE
DH60-16A	POWER DIODE DISCRETE	IXFH120N25T	MOSFET DISCRETE	IXTH120P065T	MOSFET DISCRETE
DH60-18A	POWER DIODE DISCRETE	IXFH120N25X3	MOSFET DISCRETE	IXTH12N65X2	MOSFET DISCRETE
DHG20I1200HA	POWER DIODE DISCRETE	IXFH120N30X3	MOSFET DISCRETE	IXTH130N10T	MOSFET DISCRETE
DHG20I600HA	POWER DIODE DISCRETE	IXFH12N50F	MOSFET DISCRETE	IXTH130N15X4	MOSFET DISCRETE
DHG30I1200HA	POWER DIODE DISCRETE	IXFH12N65X2	MOSFET DISCRETE	IXTH130N20T	MOSFET DISCRETE
DHG30I600HA	POWER DIODE DISCRETE	IXFH130N15X3	MOSFET DISCRETE	IXTH140P05T	MOSFET DISCRETE
DHG40C1200HB	POWER DIODE DISCRETE	IXFH140N10P	MOSFET DISCRETE	IXTH140P10T	MOSFET DISCRETE
DHG40C600HB	POWER DIODE DISCRETE	IXFH140N20X3	MOSFET DISCRETE	IXTH150N15X4	MOSFET DISCRETE
DHG60C600HB	POWER DIODE DISCRETE	IXFH14N60P	MOSFET DISCRETE	IXTH160N075T	MOSFET DISCRETE
DHG60I1200HA	POWER DIODE DISCRETE	IXFH150N15P	MOSFET DISCRETE	IXTH160N10T	MOSFET DISCRETE

DHG60I600HA	POWER DIODE DISCRETE	IXFH150N15X4	MOSFET DISCRETE	IXTH160N15T	MOSFET DISCRETE
DLA60I1200HA	POWER DIODE DISCRETE	IXFH150N17T2	MOSFET DISCRETE	IXTH16N10D2	MOSFET DISCRETE
DMA30E1800HA	POWER DIODE DISCRETE	IXFH150N20T	MOSFET DISCRETE	IXTH16N20D2	MOSFET DISCRETE
DMA30P1200HB	POWER DIODE DISCRETE	IXFH150N25X3	MOSFET DISCRETE	IXTH16N50D2	MOSFET DISCRETE
DMA30P1600HB	POWER DIODE DISCRETE	IXFH150N30X3	MOSFET DISCRETE	IXTH16P60P	MOSFET DISCRETE
DMA50I1200HA	POWER DIODE DISCRETE	IXFH15N60	MOSFET DISCRETE	IXTH180N10T	MOSFET DISCRETE
DMA50I1600HA	POWER DIODE DISCRETE	IXFH160N15T	MOSFET DISCRETE	IXTH182N055T	MOSFET DISCRETE
DMA50I800HA	POWER DIODE DISCRETE	IXFH160N15T2	MOSFET DISCRETE	IXTH1N200P3	MOSFET DISCRETE
DMA50P1200HB	POWER DIODE DISCRETE	IXFH16N50P	MOSFET DISCRETE	IXTH200N10T	MOSFET DISCRETE
DMA50P1600HB	POWER DIODE DISCRETE	IXFH16N50P3	MOSFET DISCRETE	IXTH20N50D	MOSFET DISCRETE
DMA80IM1600HB	POWER DIODE DISCRETE	IXFH16N60P3	MOSFET DISCRETE	IXTH20N60	MOSFET DISCRETE
DPF30I600AHA	POWER DIODE DISCRETE	IXFH170N10P	MOSFET DISCRETE	IXTH20N65X	MOSFET DISCRETE
DPF60C200HB	POWER DIODE DISCRETE	IXFH170N15X3	MOSFET DISCRETE	IXTH20N65X2	MOSFET DISCRETE
DPF60C300HB	POWER DIODE DISCRETE	IXFH170N25X3	MOSFET DISCRETE	IXTH20P50P	MOSFET DISCRETE
DPF60C600AHB	POWER DIODE DISCRETE	IXFH180N20X3	MOSFET DISCRETE	IXTH21N50	MOSFET DISCRETE
DPF60I200HA	POWER DIODE DISCRETE	IXFH18N60P	MOSFET DISCRETE	IXTH22N50P	MOSFET DISCRETE
DPF60IM400HB	POWER DIODE DISCRETE	IXFH18N60X	MOSFET DISCRETE	IXTH240N15X4	MOSFET DISCRETE
DPF80C200HB	POWER DIODE DISCRETE	IXFH18N65X2	MOSFET DISCRETE	IXTH24N50	MOSFET DISCRETE
DPG30C200HB	POWER DIODE DISCRETE	IXFH20N50P3	MOSFET DISCRETE	IXTH24N65X2	MOSFET DISCRETE
DPG30C300HB	POWER DIODE DISCRETE	IXFH20N60	MOSFET DISCRETE	IXTH24P20	MOSFET DISCRETE
DPG30C400HB	POWER DIODE DISCRETE	IXFH20N60Q	MOSFET DISCRETE	IXTH260N055T2	MOSFET DISCRETE
DPG30I300HA	POWER DIODE DISCRETE	IXFH21N50	MOSFET DISCRETE	IXTH26N60P	MOSFET DISCRETE
DPG30I400HA	POWER DIODE DISCRETE	IXFH21N50F	MOSFET DISCRETE	IXTH26P20P	MOSFET DISCRETE

DPG30I600AHA	POWER DIODE DISCRETE	IXFH220N06T3	MOSFET DISCRETE	IXTH270N04T4	MOSFET DISCRETE
DPG60C200HB	POWER DIODE DISCRETE	IXFH220N20X3	MOSFET DISCRETE	IXTH300N04T2	MOSFET DISCRETE
DPG60C300HB	POWER DIODE DISCRETE	IXFH22N50P	MOSFET DISCRETE	IXTH30N50P	MOSFET DISCRETE
DPG60C400HB	POWER DIODE DISCRETE	IXFH22N60P	MOSFET DISCRETE	IXTH30N60P	MOSFET DISCRETE
DPG60C600AHB	POWER DIODE DISCRETE	IXFH22N60P3	MOSFET DISCRETE	IXTH32N65X	MOSFET DISCRETE
DPG60I300HA	POWER DIODE DISCRETE	IXFH22N65X2	MOSFET DISCRETE	IXTH32P20T	MOSFET DISCRETE
DPG60I400HA	POWER DIODE DISCRETE	IXFH230N075T2	MOSFET DISCRETE	IXTH340N04T4	MOSFET DISCRETE
DPG80C300HB	POWER DIODE DISCRETE	IXFH230N10T	MOSFET DISCRETE	IXTH34N65X2	MOSFET DISCRETE
DPG80C400HB	POWER DIODE DISCRETE	IXFH240N15X3	MOSFET DISCRETE	IXTH360N055T2	MOSFET DISCRETE
DSA30C100HB	POWER DIODE DISCRETE	IXFH24N50	MOSFET DISCRETE	IXTH36N50P	MOSFET DISCRETE
DSA30C150HB	POWER DIODE DISCRETE	IXFH24N50Q	MOSFET DISCRETE	IXTH36P10	MOSFET DISCRETE
DSA30C45HB	POWER DIODE DISCRETE	IXFH24N60X	MOSFET DISCRETE	IXTH36P15P	MOSFET DISCRETE
DSA50C100HB	POWER DIODE DISCRETE	IXFH26N50	MOSFET DISCRETE	IXTH40N30	MOSFET DISCRETE
DSA50C150HB	POWER DIODE DISCRETE	IXFH26N50P	MOSFET DISCRETE	IXTH440N055T2	MOSFET DISCRETE
DSA60C45HB	POWER DIODE DISCRETE	IXFH26N50P3	MOSFET DISCRETE	IXTH44P15T	MOSFET DISCRETE
DSA60C60HB	POWER DIODE DISCRETE	IXFH26N50Q	MOSFET DISCRETE	IXTH450P2	MOSFET DISCRETE
DSA70C100HB	POWER DIODE DISCRETE	IXFH26N60P	MOSFET DISCRETE	IXTH460P2	MOSFET DISCRETE
DSA70C150HB	POWER DIODE DISCRETE	IXFH26N60Q	MOSFET DISCRETE	IXTH48N65X2	MOSFET DISCRETE
DSA70C200HB	POWER DIODE DISCRETE	IXFH26N65X2	MOSFET DISCRETE	IXTH48P20P	MOSFET DISCRETE
DSA80C45HB	POWER DIODE DISCRETE	IXFH270N06T3	MOSFET DISCRETE	IXTH500N04T2	MOSFET DISCRETE
DSA90C200HB	POWER DIODE DISCRETE	IXFH28N60P3	MOSFET DISCRETE	IXTH50N20	MOSFET DISCRETE
DSB30C45HB	POWER DIODE DISCRETE	IXFH30N50P	MOSFET DISCRETE	IXTH50P10	MOSFET DISCRETE
DSB60C30HB	POWER DIODE DISCRETE	IXFH30N50Q3	MOSFET DISCRETE	IXTH52N65X	MOSFET DISCRETE

DSB60C45HB	POWER DIODE DISCRETE	IXFH30N60P	MOSFET DISCRETE	IXTH52P10P	MOSFET DISCRETE
DSB60C60HB	POWER DIODE DISCRETE	IXFH30N60X	MOSFET DISCRETE	IXTH62N65X2	MOSFET DISCRETE
DSB80C45HB	POWER DIODE DISCRETE	IXFH320N10T2	MOSFET DISCRETE	IXTH64N65X	MOSFET DISCRETE
DSDI60-14A	POWER DIODE DISCRETE	IXFH32N50	MOSFET DISCRETE	IXTH67N10	MOSFET DISCRETE
DSDI60-16A	POWER DIODE DISCRETE	IXFH32N50Q	MOSFET DISCRETE	IXTH68P20T	MOSFET DISCRETE
DSDI60-18A	POWER DIODE DISCRETE	IXFH340N075T2	MOSFET DISCRETE	IXTH6N50D2	MOSFET DISCRETE
DSEC30-06A	POWER DIODE DISCRETE	IXFH34N50P3	MOSFET DISCRETE	IXTH75N10	MOSFET DISCRETE
DSEC30-06B	POWER DIODE DISCRETE	IXFH34N65X2	MOSFET DISCRETE	IXTH76N25T	MOSFET DISCRETE
DSEC30-12A	POWER DIODE DISCRETE	IXFH36N50P	MOSFET DISCRETE	IXTH76P10T	MOSFET DISCRETE
DSEC60-06A	POWER DIODE DISCRETE	IXFH36N60P	MOSFET DISCRETE	IXTH7P50	MOSFET DISCRETE
DSEC60-06B	POWER DIODE DISCRETE	IXFH400N075T2	MOSFET DISCRETE	IXTH80N65X2	MOSFET DISCRETE
DSEC60-12A	POWER DIODE DISCRETE	IXFH40N30	MOSFET DISCRETE	IXTH86N20T	MOSFET DISCRETE
DSEE30-12A	POWER DIODE DISCRETE	IXFH40N30Q	MOSFET DISCRETE	IXTH86N25T	MOSFET DISCRETE
DSEI120-06A	POWER DIODE DISCRETE	IXFH40N50Q	MOSFET DISCRETE	IXTH88N30P	MOSFET DISCRETE
DSEI120-12A	POWER DIODE DISCRETE	IXFH40N55X2	MOSFET DISCRETE	IXTH8P50	MOSFET DISCRETE
DSEI30-06A	POWER DIODE DISCRETE	IXFH42N20	MOSFET DISCRETE	IXTH90N20X3	MOSFET DISCRETE
DSEI30-10A	POWER DIODE DISCRETE	IXFH42N50P2	MOSFET DISCRETE	IXTH90P10P	MOSFET DISCRETE
DSEI30-12A	POWER DIODE DISCRETE	IXFH42N60P3	MOSFET DISCRETE	IXTH96N20P	MOSFET DISCRETE
DSEI60-02A	POWER DIODE DISCRETE	IXFH44N50P	MOSFET DISCRETE	IXTH96N25T	MOSFET DISCRETE
DSEI60-06A	POWER DIODE DISCRETE	IXFH44N50Q3	MOSFET DISCRETE	IXTH96P085T	MOSFET DISCRETE
DSEI60-10A	POWER DIODE DISCRETE	IXFH46N30T	MOSFET DISCRETE	IXXH100N60B3	IGBT DISCRETE
DSEI60-12A	POWER DIODE DISCRETE	IXFH46N65X2	MOSFET DISCRETE	IXXH110N65C4	IGBT DISCRETE
DSEK60-02A	POWER DIODE DISCRETE	IXFH50N20	MOSFET DISCRETE	IXXH150N60C3	IGBT DISCRETE

DSEK60-06A	POWER DIODE DISCRETE	IXFH50N30Q3	MOSFET DISCRETE	IXXH30N60B3D1	IGBT DISCRETE
DSEK60-12A	POWER DIODE DISCRETE	IXFH50N50P3	MOSFET DISCRETE	IXXH30N60C3D1	IGBT DISCRETE
DSEP30-06A	POWER DIODE DISCRETE	IXFH50N60P3	MOSFET DISCRETE	IXXH30N65B4	IGBT DISCRETE
DSEP30-06B	POWER DIODE DISCRETE	IXFH50N60X	MOSFET DISCRETE	IXXH50N60C3D1	IGBT DISCRETE
DSEP30-12A	POWER DIODE DISCRETE	IXFH52N30P	MOSFET DISCRETE	IXXH60N65B4H1	IGBT DISCRETE
DSEP30-12B	POWER DIODE DISCRETE	IXFH52N30Q	MOSFET DISCRETE	IXXH75N60B3D1	IGBT DISCRETE
DSEP60-06A	POWER DIODE DISCRETE	IXFH52N50P2	MOSFET DISCRETE	IXXH75N60C3D1	IGBT DISCRETE
DSEP60-06B	POWER DIODE DISCRETE	IXFH56N30X3	MOSFET DISCRETE	IXXH80N65B4H1	IGBT DISCRETE
DSEP60-12A	POWER DIODE DISCRETE	IXFH58N20	MOSFET DISCRETE	IXYH50N65C3D1	IGBT DISCRETE
DSEP60-12B	POWER DIODE DISCRETE	IXFH58N20Q	MOSFET DISCRETE	IXYH50N65C3H1	IGBT DISCRETE
DSI45-08A	POWER DIODE DISCRETE	IXFH60N50P3	MOSFET DISCRETE	IXYH75N65C3D1	IGBT DISCRETE
DSI45-12A	POWER DIODE DISCRETE	IXFH60N60X	MOSFET DISCRETE	IXYH75N65C3H1	IGBT DISCRETE