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Control No. PCN-17301

February 21, 2018

**PRODUCT/PROCESS CHANGE NOTIFICATION** 

TYPE OF CHANGE:

Design

Manufacturing

Other

This notification is provided in accordance with Power Integrations policy of product/process change notification. If you have any questions or need further assistance, please contact your regional Power Integrations sales office.

### **DESCRIPTION OF CHANGE**

Seiko Epson, Sakata, Japan is added as an alternative wafer fab site for *LinkSwitch<sup>TM</sup>-TN* products listed below. Seiko Epson, Sakata, Japan is one of the qualified wafer fab sites of Power Integrations products. There is neither change in technology nor the bill of materials.

### **REASON FOR CHANGE**

Improve manufacturing flexibility and diversification of manufacturing sites.

### **PRODUCTS AFFECTED**

Part Numbers	Package
LNK302DG, LNK302DGAU, LNK302DG0004, LNK302DG0105, LNK302DG0166	SO-8C
LNK304DG, LNK304DGAU, LNK304DG0004, LNK304DG0105, LNK304DG0166	
LNK302DN, LNK302DNAU, LNK302DN0005, LNK302DN0053, LNK302DN0190	
LNK304DN, LNK304DNAU, LNK304DN0054, LNK304DN0152, LNK304DN0166	
LNK302GN, LNK302GNAU, LNK302GN0004, LNK302GN0166	SMD-8C
LNK304GN, LNK304GNAU, LNK304GN0004, LNK304GN0087, LNK304GN0166	
LNK302PG, LNK304PG	PDIP-8C
LNK302PN, LNK302PNAU, LNK302PN0004, LNK302PN0054, LNK302PN0105, LNK302PN0166	
LNK304PN, LNK304PNAU, LNK304PN0004, LNK304PN0105, LNK304PN0152, LNK304PN0164,	
LNK304PN0166	

### QUALIFICATION STATUS

See Appendix 1 for the qualification report.

### EFFECT ON CUSTOMER

No adverse impact is expected in customers' applications. The product will be guaranteed to meet the datasheet limits.

### EFFECTIVE DATE

May 21, 2018. This date is subject to change. Products fabricated at the current locations will continue to be shipped after the addition.

### SAMPLE AVAILABILITY

Samples are available upon request.

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Appendix 1 Reliability Engineering Qualification Report *Qualification Project:* Various *Date of Report: 15-Feb-2018* 

# Project Title: LinkSwitch-TN Seiko Epson (SEC) Wafer Fab Qualification

### Summary:

LinkSwitch-TN products with wafer fabrication at Seiko Epson (SEC) were subjected to a full suite of reliability stress tests for qualification of this product family at this wafer fab. All required reliability stress tests were completed on three qualification lots with no failures. Yield and temperature characterization were completed on representative LinkSwitch-TN products from this wafer fab with acceptable results. Based on these results, LinkSwitch-TN products with wafer fabrication at SEC are now fully qualified and approved for production.

### **Reliability Test Descriptions and Conditions**

Test Name	Conditions	<b>Reference Specification</b>
DOPL (Dynamic Operating Life Test)	Tj=125°C, Switching Powe Supply Configuration, Vd(peak) = 560V	EIA/JESD22-A108D
HTRB (High Temp Reverse Bias Test)	Ta=150°C; off-state bias, Vd = 560V	EIA/JESD22-A108D
THBT (Temperature Humidity Bias Test)	85°C, 85% RH; off-state bias, Vd = 30V	EIA/JESD22-A101C
TMCL (Temperature Cycle, Air to Air)	-65°C to +150°C, air-to=air	EIA/JESD22-A104D
HALT (Highly Accelerated Life Test	DOPL at Ta = 85°C, 85% RH, Tj=115C	EIA/JESD22-A103D
MSL1 Preconditioning	24-hr 150°C Bake + 168-hr 85°C, 85% RH Moisture Soak + 3 Passes 260C Solder Reflow	EIA/JESD22-A113D

### DOPL (Dynamic Operating Life)

Product	Package	Lot	Test Duration	Failures/Sample Size
LNK306PN	6B855E	E173004	1000 hours	0/47
LNK306PN	5L664B	E170204	1000 hours	0/47
LNK306DG	5B789G	E164201	MSL1 + 1000 hours	0/47

### HTRB (High Temperature Reverse Bias)

Product	Package	Assy Lot	Test Duration	Failures/Sample Size
LNK306PN	6B855E	E173004	1000 hours	0/47
LNK306PN	5L664B	E170204	1000 hours	0/47
LNK306DG	5B789G	E164201	MSL1 + 1000 hours	0/47

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# THBT (Temperature Humidity Bias)

Product	Package	Assy Lot	Test Duration	Failures/Sample Size
LNK306PN	6B855E	E173004	1000 hours	0/47
LNK306PN	5L664B	E170204	1000 hours	0/47
LNK306DG	5B789G	E164201	MSL1 + 1000 hours	0/47

# TMCL (Temperature Cycling)

Product	Package	Assy Lot	Test Duration	Failures/Sample Size
LNK306PN	6B855E	E173004	1000 cycles	0/47
LNK306PN	5L664B	E170204	1000 cycles	0/47
LNK306DG	5B789G	E164201	MSL1 + 1000 cycles	0/47

# HALT (Highly Accelerated Life Test)

Product	Package	Assy Lot	Test Duration	Failures/Sample Size
LNK306PN	6B855E	E173004	1000 cycles	0/20
LNK306PN	5L664B	E170204	1000 cycles	0/20
LNK306DG	5B789G	E164201	MSL1 + 1000 cycles	0/20

**Conclusion**: Based on acceptable reliability test results, LinkSwitch-TN products are approved for wafer fabrication at Seiko Epson (SEC).

### CUSTOMER ACKNOWLEDGEMENT

Power Integrations requests you acknowledge the receipt of the above-mentioned PCN. If no acknowledgment is received within 30 days of this notification, Power Integrations will assume the change is acceptable. Lack of any additional response within 90 days of this notification further constitutes acceptance of the change.

Power Integrations reserves the right to ship either version manufactured after the effective date until the inventory of the earlier version has been depleted.

If you have any questions or need further assistance, please contact your regional Power Integrations sales office. Otherwise, please check the box below, acknowledging the receipt of the PCN.

### The indicated Product/Process Change Notification was received by the undersigned authority.

Name/Title:		
Signature:	Date:	
Email Address/Phone#:		
Company/Location:		
CUSTOMER COMMENTS		

Please email this signed form to <u>pcn@power.com</u> specifying the PCN# in the subject.

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