



PRODUCT / PROCESS CHANGE NOTIFICATION

PCN-000769

Date: AUG-15-2022

P1/1

Semtech Corporation, 200 Flynn Road, Camarillo CA 93012

Change Details

Part Number(s) Affected: GV7700-INE3	Customer Part Number(s) Affected: <input checked="" type="checkbox"/> N/A
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Description, Purpose and Effect of Change:

Semtech will begin dual sourcing of GV7700-INE3 as part of its ongoing Supply Security Program.

Existing assembly source	New assembly source
ASEM	HuaTian XiAn (HTXA)

Change Classification	<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor	Impact to Form, Fit, Function	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Impact to Data Sheet	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	New Revision or Date	<input checked="" type="checkbox"/> N/A

Impact to Performance, Characteristics or Reliability:

There is no impact to form, fit, function, performance, characteristics, or reliability.

Implementation Date	NOV-15-2022	Work Week	WW47
Last Time Ship (LTS) <small>Of unchanged product</small>	N/A	Affecting Lot No. / Serial No. (SN)	N/A
Sample Availability	JUL-01-2022	Qualification Report Availability	AUG-03-2022

Supporting Documents for Change Validation/Attachments:

PRODDOC026990 Rev. 0 Reliability Qualification Report for GV7700 Assembly in HTXA

Issuing Authority

Semtech Business Unit:	Signal Integrity Product Group (SIP)	
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Reliability Qualification Report for GV7700 Assembly in HTXA

Revision History

Version	ECO	Date	Modifications
0	ECO-062678	Jul 2022	New Release

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1 Background

GV7700 is currently assembled at Greatek, Taiwan. To meet customer demand and to ensure timely delivery, a dual source qualification at HuaTian XiAn (HTXA) was initiated. The purpose of this qualification is to qualify HTXA as a second assembly site for GV7700.

2 Product Scope

The only product affected by this change is GV7700. Please find more details about the package type and lot numbers of parts used in this qualification in table 1 below.

Table1: Package type and lot number information for GV7700 used in this qualification.

Semtech Device Codes	GV7700
Package Type	7x7mm 84L QFN
Lot Numbers	A674E1, B674E3, C674E3

3 Qualification Approach

GV7700 has already been fully qualified previously. Please refer to GV7700 reliability qualification report for more information (PRODDOC010275). This qualification only intends to assess the reliability impact of having GV7700 assembled at HTXA. Thus, die-level reliability stresses (HTOL, ESD and LU) were not planned. TC, UHAST and HTS were carried out on 3 lots of GV7700 at the vendor side. A separate biased HAST was carried out independently on 3 lots at ICE for information. CSAM was performed on all parts at T0, post MSL (if applicable) and post stresses. Please refer to table 2 in section 4, for more details about the qualification stresses and sample size,

4 Reliability Qualification Stresses

Table 3: Reliability qualification stresses for GV7700 assembled at HTXA

Stress Test	Conditions	Duration	Qualification Vehicle	Sample Size	Result
High Temperature Storage (HTS)	JESD22-A103	1000 hours	GV7700	80 pcs/lots * 3 lots	Pass
	CSAM T=150 °C				
Unbiased HAST	JESD22-A118	96hrs	GV7700	80 pcs/lots * 3 lots	Pass
	MSL3 preconditioning and CSAM, 130°C, 85 % RH,				
TC	JESD22-A104	1000 cycles	GV7700	80 pcs/lots * 3 lots	Pass
	MSL3 preconditioning and CSAM, -40°C to +125°C (Condition G)				
Biased HAST	JESD22-A110	96hrs	GV7700	30 pcs/lots * 3 lots	Pass
	MSL3 preconditioning ad CSAM, 130°C, 85 % Rh				

5 Conclusion

In conclusion, GV7700 assembled at HuaTian XiAn (HTXA) successfully passed required reliability stresses. Thus, HTXA can be considered as a qualified assembly site for Semtech's GV7700.