



PRODUCT / PROCESS CHANGE NOTIFICATION

PCN-000779

Date: DEC-08-2021

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Semtech Corporation, 200 Flynn Road, Camarillo CA 93012

Change Details

Part Number(s) Affected: GN25L95-QFN-TR GN25L95B-QFN-TR NT25L90-TR NT25L91-QFN-TR NT28L90-QFN-TR	Customer Part Number(s) Affected: <input checked="" type="checkbox"/> N/A
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Description, Purpose and Effect of Change:

Semtech has qualified an additional source of lead frame, Sumitomo, as a result of increasing customer demand. Sumitomo lead frames meet reliability requirements and have been used successfully in the production of other Semtech products. The assembly site, Greatek, remains the same.

Change Classification	<input type="checkbox"/> Major <input checked="" 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:

This change has no impact on performance, characteristics, or reliability.

Implementation Date	JAN-25-2022	Work Week	04
Last Time Ship (LTS) <small>Of unchanged product</small>	N/A	Affecting Lot No. / Serial No. (SN)	N/A
Sample Availability	OCT-08-2021	Qualification Report Availability	N/A

Supporting Documents for Change Validation/Attachments:

- Please see the qualification report on the following pages.

Issuing Authority

Semtech Business Unit:	Signal Integrity Product Group (SIP)		
Semtech Contact Info:	Pedro Jr. Bernas Quality Assurance pbernas@semtech.com (289) 856-9326 x1162		

FOR FURTHER INFORMATION & WORLDWIDE SALES COVERAGE: <http://www.semtech.com/contact/index.html#support>



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• **RELIABILITY**

- Total three lots passed all tests conducted.

Runcard No	RA-202109123-1	RA-202109123-1	RA-202109123-1
Package Type	QFN 28L	QFN 28L	QFN 28L
Device no.	25L95-A04-FAB5-QFN	25L95-A04-FAB5-QFN	25L95-A04-FAB5-QFN
Lot no.	FVH109.3	FVH109.3	FVH109.3
L/F pad size/	115*115	115*115	115*115
Silver Epoxy	CRM-1076DJ-G type P1	CRM-1076DJ-G type P1	CRM-1076DJ-G type P1
Wire	PD C/W 0.8mil	PD C/W 0.8mil	PD C/W 0.8mil
Epoxy Molding Compound	G700H	G700H	G700H
Sample Size (EA)	240	240	240
Lead Finish	Sn 100%	Sn 100%	Sn 100%
Test item		Result	Result
Pre-con.	Visual Inspection	Pass	Pass
	SAT0		
	TCT 5 cycles		
	Baking 125°C, 24 hrs		
	MSL1(85°C/85%/168hrs)		
	IR Reflow *260*3		
	SAT1		
Function test	All pass	All pass	
HTST (150°C) (Without Precon)	500hrs Function test	All pass	All pass
	Post HTS500 SAT	All pass	All pass
uHAST (130°C/85%)	96hrs Function test	All pass	All pass
TCT (-65°C~150°C)	500cycles Function test	All pass	All pass
	Post TC500 SAT	All pass	All pass
	Cross section	All pass	All pass

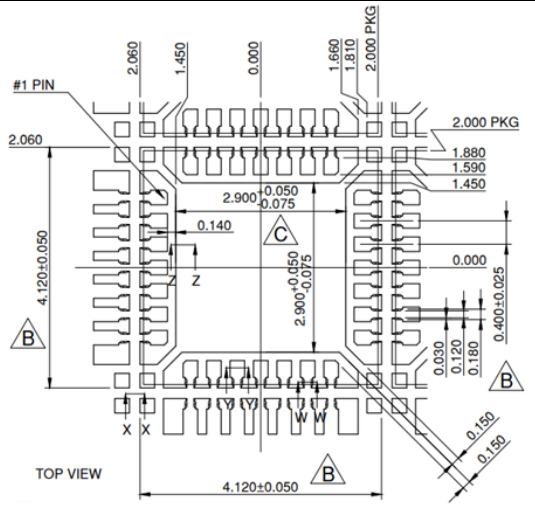
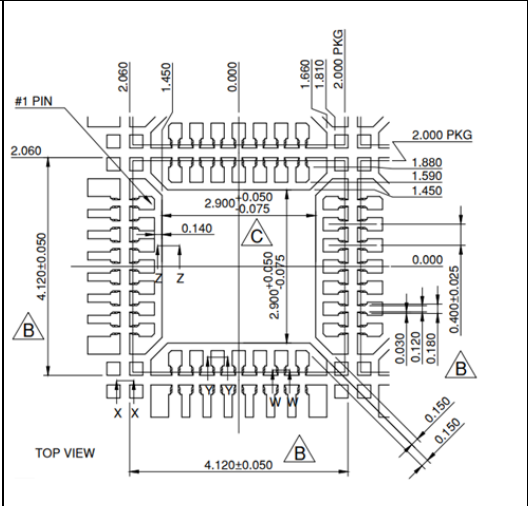
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- **LEAD FRAME Comparison**
 - No difference

Item	SHINKO (existing)	SUMITOMO
Vendor	Shinko	SUMITOMO (2nd source)
Material	A194	A194
Unit/Strip	15*12*4=720	15*12*4=720
LF Length	258 mm	258 mm
LF Width	78 mm	78 mm
LF Thickness	0.200 mm	0.200 mm
Method	Etching	Etching
Pad Size	115*115 mil	115*115 mil
Plating thickness	Ni/Pd/Au Ni THICKNESS : 0.5~2.0um Pd THICKNESS : 0.02~0.15um Au THICKNESS : 0.003~0.015um	Ni/Pd/Au Ni THICKNESS : 0.5~2.0um Pd THICKNESS : 0.02~0.15um Au THICKNESS : 0.003~0.015um
LF photo	 <p>TOP VIEW</p>	 <p>TOP VIEW</p>

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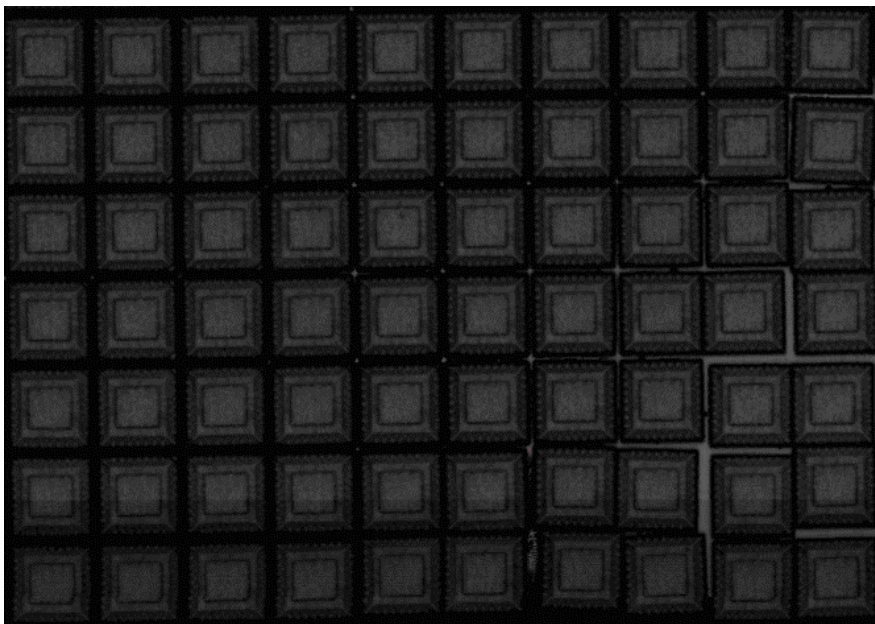
Date: DEC-08-2021

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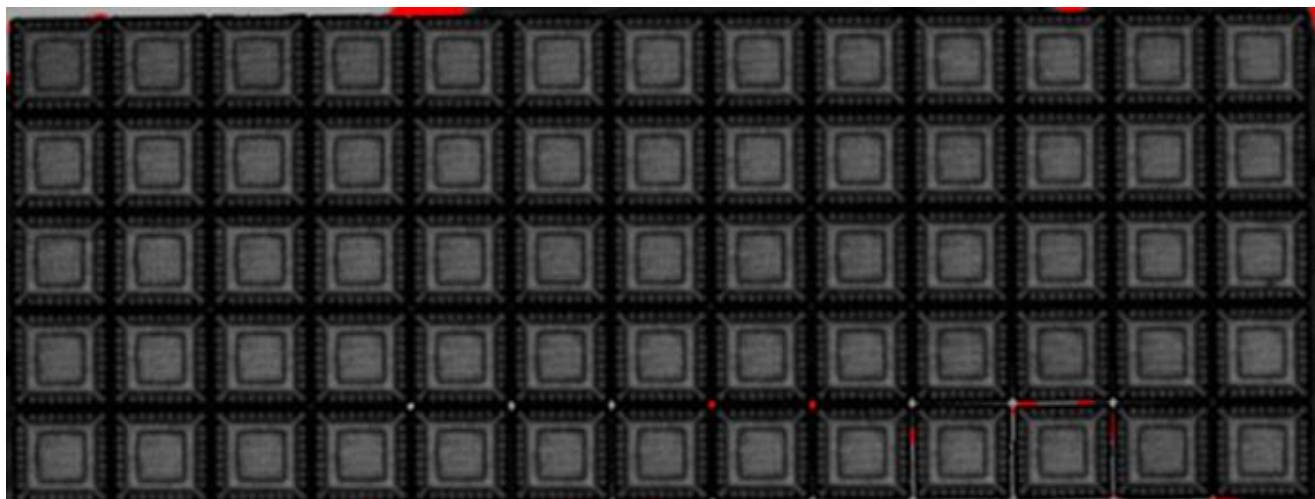
- **Post Mold SAT Comparison**

- No delamination

- ❖ SUMITOMO Lead Frame



- ❖ SHINKO Lead Frame (existing)



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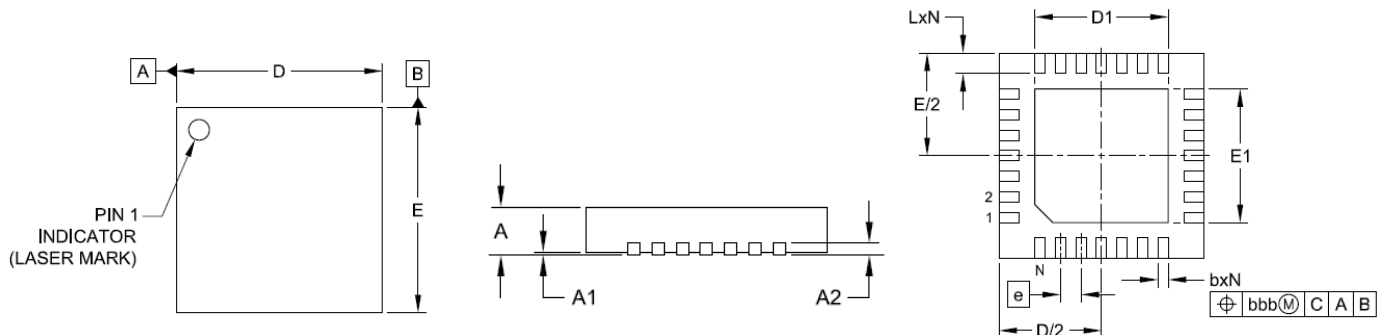
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• POD Comparison

- No significant difference



❖ SUMITOMO Lead Frame

SYMBOL	SPEC			Sample										Max.	Min.	AVG.	JUDGEMENT
	MIN.	NOR.	MAX.	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10				
A	0.70	0.75	0.80	0.775	0.768	0.769	0.771	0.774	0.770	0.773	0.767	0.763	0.769	0.775	0.763	0.770	ACC
A1	0.00	0.02	0.05	0.019	0.025	0.022	0.023	0.025	0.023	0.025	0.019	0.016	0.017	0.025	0.016	0.021	ACC
A2	0.203 REF.			0.247	0.243	0.239	0.245	0.239	0.234	0.243	0.238	0.233	0.242	0.247	0.233	0.240	ACC
b	0.15	0.20	0.25	0.225	0.220	0.223	0.227	0.223	0.221	0.230	0.218	0.219	0.214	0.230	0.214	0.222	ACC
D	3.90	4.00	4.10	3.993	3.986	3.990	3.984	3.987	3.990	3.985	3.988	3.983	3.992	3.993	3.983	3.988	ACC
E	3.90	4.00	4.10	3.985	3.988	3.996	3.985	3.982	3.993	3.984	3.987	4.000	3.996	4.000	3.982	3.990	ACC
e	0.40 BSC			0.400	0.392	0.392	0.391	0.408	0.388	0.397	0.396	0.386	0.390	0.408	0.386	0.394	ACC
L	0.35	0.40	0.45	0.380	0.381	0.394	0.392	0.400	0.385	0.387	0.385	0.389	0.390	0.400	0.380	0.388	ACC
D1	2.55	2.60	2.65	2.585	2.580	2.572	2.583	2.579	2.579	2.578	2.584	2.572	2.574	2.585	2.572	2.579	ACC
E1	2.55	2.60	2.65	2.573	2.575	2.575	2.573	2.584	2.576	2.578	2.580	2.571	2.571	2.584	2.571	2.576	ACC

❖ SHINKO Lead Frame (existing)

SYMBOL	SPEC			Sample										Max.	Min.	AVG.	JUDGEMENT
	MIN.	NOM.	MAX.	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10				
A	0.70	0.75	0.80	0.773	0.770	0.775	0.773	0.771	0.770	0.774	0.772	0.773	0.774	0.775	0.770	0.773	ACC
A1	0.00	0.02	0.05	0.023	0.022	0.026	0.022	0.023	0.025	0.022	0.022	0.024	0.025	0.026	0.022	0.023	ACC
A2	0.203 REF.			0.224	0.233	0.225	0.227	0.231	0.228	0.230	0.228	0.227	0.231	0.233	0.224	0.228	ACC
b	0.15	0.20	0.25	0.185	0.176	0.183	0.176	0.180	0.183	0.180	0.179	0.183	0.181	0.185	0.176	0.181	ACC
D	3.90	4.00	4.10	3.976	3.972	3.973	3.972	3.974	3.972	3.975	3.972	3.974	3.973	3.976	3.972	3.973	ACC
E	3.90	4.00	4.10	3.971	3.981	3.974	3.974	3.975	3.980	3.977	3.972	3.974	3.980	3.981	3.971	3.976	ACC
e	0.40 BSC			0.399	0.402	0.398	0.401	0.398	0.401	0.399	0.398	0.401	0.399	0.402	0.398	0.400	ACC
L	0.35	0.40	0.45	0.395	0.390	0.396	0.393	0.390	0.391	0.394	0.393	0.390	0.394	0.396	0.390	0.393	ACC
D1	2.55	2.60	2.65	2.568	2.567	2.571	2.570	2.569	2.570	2.569	2.569	2.569	2.570	2.571	2.567	2.569	ACC
E1	2.55	2.60	2.65	2.570	2.569	2.572	2.569	2.569	2.571	2.569	2.571	2.570	2.570	2.572	2.569	2.570	ACC