

Process Change Notification

This is to inform you that a design and/or process change will be implemented to the affected product(s) listed below.

Please contact your local Taiwan Semiconductor Field Quality Service or Customer Quality Engineer within 45 days of receipt of this notification if you require any additional data or samples.

Change No: PCN26001 rev0

Title: Wafer Fab Transfer for UG/UF1 400V Series Automotive Products

Issue Date: 2026/2/13

If you have any questions concerning this change, please contact:

Change Coordinator

Name :
E-Mail :
Phone :

Change Originator

Name :
E-mail :
Phone :

Reliability Engineer

Name :
E-mail :
Phone :

Change Type: Wafer Fab Transfer for UG/UF1 400V Series Automotive Products

Effectivity:

Expected 1st device shipment date: 2026/4/1

Last Order Date: 2026/3/15

Last Delivery Date: 2026/4/30

Product Category (Description):

DO-201AD, TO-220AB/AC, ITO-220AB/AC and SOD-123W

Full list of products affected are listed in "List of Affected Devices" section.

Description of Change:

This PCN is being issued to notify customers that in order to improve process control, product quality and continuity of supply, TSC has qualified it's internal wafer fab – TSC-Lije for UG/UF1 400V. All the product listed below will be transferred to in house fab with no impact on the product form, fit and functionality.

Wafer Fab and Process Modifications Details

Item	Current	New
Wafer Fab Site	Outsourced	In-house
Wafer Diameter (inch)	5	6
Wafer Thickness (μm)	230	280
Die Size (mil) UF1GLW(H)	42.5	41
Die Passivation	Polyimide	SiN + Polyimide
Ordering Code (Automotive Products)	UG56GH UG56GHA0G UG1005GH UG1006GH UG10GH UGF1005GH UGF1006GH UGF1005GAH UGF1006GAH UGF1606GH UGF2005GH UGF2006GH UGF10GH UF1GLWH	UG56GH_A UG56GH_AA0G UG1005GH_A UG1006GH_A UG10GH_A UGF1005GH_A UGF1006GH_A UGF1005GAH_A UGF1006GAH_A UGF1606GH_A UGF2005GH_A UGF2006GH_A UGF10GH_A UF1GLWH_A

Qualification and Reliability Result

No	Test	Specification	Condition	Readpoint	# of Lots	Result
1	Pre and Post Stress Electrical Test	Product Datasheet	Test at room temp	-	3	PASS
2	External Visual	JESD22-B101	per reference standard	-	3	PASS
3	Preconditioning	J-STD-020	MSL-1 (3x reflow at 260°C)	-	1	PASS
4	Temperature Cycle	JESD22-A104	-55°C to +150°C; 15 mins dwell	1000 cycs	3	PASS
5	Unbiased HAST	JESD22-A118	130°C/85% RH; unbiased	96 hrs	3	PASS
6	Highly Accelerated Stress Test	JESD22-A110	130°C/85% RH; V=80% VR; 42V max	96 hrs	3	PASS
7	Resistance to Solder Heat	JESD22-A111	SMD (Pb free): 260°C; 10 sec	10 secs	1	PASS
		JESD22-B106	PTH (Pb free): 270°C; 7 sec	7 secs	2	PASS
8	High Temp Reverse Bias	MIL-STD-750-1	175°C; V=100% rated V	1000 hrs	3	PASS
9	Intermittent Operating Life	MIL-STD-750	Ta=25°C; ΔTj=100°C; 2.0 min on/off	15000 cycs	2	PASS
	Intermittent Operating Life	MIL-STD-750	Ta=25°C; ΔTj=100°C; 3.5 min on/off	8640 cycs	1	PASS
10	Destructive Physical Analysis	AEC-Q101-004	Post-TC 1000	results	3	PASS
11	Destructive Physical Analysis	AEC-Q101-004	Post-HAST 96	results	3	PASS
12	Solderability	J-STD-002	245°C	results	3	PASS
13	Thermal Resistance	JESD24	per product datasheet	results	3	PASS
14	Physical Dimension	JESD22-B100	per assembly spec	results	3	PASS

No	Test	Specification	Condition	Readpoint	# of Lots	Result
15	Die Shear	MIL-STD-750-2	per assembly spec	results	3	PASS
16	Parametric Verification	TSC Datasheet	per product datasheet	results	3	PASS
17	ESD - Human Body Model	AEC-Q101-001	per product spec	results	3	>8KV/H3B
18	ESD - Charged Device Model	AEC-Q101-005	per product spec	results	3	≥1KV/C3

Conclusion: UGF10G,UG56G,UF1GLWH successfully passed Automotive-grade qualification per AEC-Q101 rev. E.

Effect of Change:

There is no change of form, fit and function of the product.

Identification and Traceability:

Base P/N_X ("X" denotes revision code e.g. A, B, ...) for Automotive

Example:

Before PCN: UG56GH

After PCN: UG56GH_A

List of Affected Products:

Family	Package	Existing Ordering Code	New Ordering Code
5A, 400V Ultra Fast Rectifier	DO-201AD	UG56GH	UG56GH_A
5A, 400V Ultra Fast Rectifier	DO-201AD	UG56GHA0G	UG56GH_AA0G
10A, 300V Ultra Fast Rectifier	TO-220AB	UG1005GH	UG1005GH_A
10A, 400V Ultra Fast Rectifier	TO-220AB	UG1006GH	UG1006GH_A
10A, 400V Ultra Fast Rectifier	TO-220AC	UG10GH	UG10GH_A
10A, 300V Ultra Fast Rectifier	ITO-220AB	UGF1005GH	UGF1005GH_A
10A, 400V Ultra Fast Rectifier	ITO-220AB	UGF1006GH	UGF1006GH_A
10A, 300V Ultra Fast Rectifier	ITO-220AB	UGF1005GAH	UGF1005GAH_A
10A, 400V Ultra Fast Rectifier	ITO-220AB	UGF1006GAH	UGF1006GAH_A
16A, 400V Ultra Fast Rectifier	ITO-220AB	UGF1606GH	UGF1606GH_A
20A, 300V Ultra Fast Rectifier	ITO-220AB	UGF2005GH	UGF2005GH_A
20A, 400V Ultra Fast Rectifier	ITO-220AB	UGF2006GH	UGF2006GH_A
10A, 400V Ultra Fast Rectifier	ITO-220AC	UGF10GH	UGF10GH_A
1A, 400V Ultra Fast Surface Mount Rectifier	SOD-123W	UF1GLWH	UF1GLWH_A