

PDN Number:	20200717000.3	PDN Date:	July 20, 2020
Title:	Discontinuance of select MicroStar BGA & MicroStar BGA Jr. devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Last date to order:	April 20, 2021	Last date to ship:	April 20, 2022
Change Type:	Product Discontinuance - End Of Life		

Product Discontinuance Notification Details

Description of Discontinuance:

Texas Instruments, Incorporated (TI) is announcing the discontinuance of select MicroStar BGA & MicroStar BGA Jr. package devices. A non-cancelable, non-refundable last time buy is being offered per the date shown above. Part numbers are shown in the Product Affected section below. Recommended replacements are being offered on some devices as shown in the Product Affected Section.

The TMS320F2812GHHQ device in the MicroStar BGA package was redesigned using a laminate BGA package (nFBGA). nFBGA provides the same X and Y dimensions as MicroStar BGA, and provides pin-to-pin and footprint compatibility. However the nFBGA PCB land pattern and stencil recommendations have been updated to achieve better soldering results after extensive testing and evaluation. For more details, please refer to this [nFBGA application note](#).

The replacement product, TMS320F2812GBBS, is not yet released to production (estimated in September). Samples are estimated to be available at the time of release. For additional questions regarding the release status of the replacement device, please contact phoebewong@ti.com.

BOM for new nFBGA Package:

	Assembly Site nFBGA
Assembly Site	TI Philippines
Mount Compound	epoxy
Mold compound	4205283
Wire Type	Cu
Substrate	Laminate

NOTE: There are no samples offered for withdrawn/obsolete products. For samples of any replacement products, please contact your local sales representative or visit the TI store at <https://www.ti.com/store>.

Reason for Withdrawal/Discontinuance:

Due to an equipment End-Of-Life notice from our substrate supplier, we are phasing out certain MicroStar BGA & MicroStar BGA Jr package devices and offering a last time buy.

Product Affected:

Product Being Discontinued	RECOMMENDED REPLACEMENT PRODUCTS (nFBGA Package)	REPLACEMENT CODES
SH2812GHHQR	None	Not Applicable
TMS320F2812GHHQ	TMS320F2812GBBS	Q

Replacement Notes:

F = Similar functionality but not equivalent.

P = Same functionality but not pin-for-pin equivalent and may not be parametrically equivalent.
 Q = Same functionality and PIN-OUT as the compared device but is NOT an exact equivalent.
 S = EXACT equivalent in functionality and parametrically to the compared device.

Qualification Report (nFBGA) Approve Date 20-Jan-2020

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: <u>OM</u> <u>AP5</u> <u>912</u> <u>ZVL</u>	QBS Package Reference: <u>AM351</u> <u>7ZCN</u>	QBS Package Reference: <u>CODM</u> <u>IOZW</u> <u>CR</u>	QBS Package Reference: <u>LMK0</u> <u>4616Z</u> <u>CRR</u>	QBS Package Reference: <u>MSP43</u> <u>0FG43</u> <u>9IZCA</u>	QBS Package Reference: <u>MSP43</u> <u>0FR59</u> <u>94IZV</u> <u>W</u>	QBS Package Reference: <u>PCD32</u> <u>15C00</u> <u>AZBH</u> <u>R</u> <u>PCD32</u> <u>15C00</u> <u>BZBH</u> <u>R</u>	QBS Package Reference: <u>TMP57</u> <u>0LS313</u> <u>7BZW</u> <u>TOQ1</u>	QBS Package Reference: <u>TMS32</u> <u>0DM64</u> <u>46ZW</u> <u>T</u>	QBS Package Reference: <u>TPS65</u> <u>9038T</u> <u>ZWSR</u> <u>Q1</u>	QBS Package Reference: <u>TS3DD</u> <u>R4000</u> <u>ZBAR</u>
AC	Autoclave 121C	96 Hours	-	-	-	-	-	3/231/0	-	-	-	-	-
CDM	ESD - CDM	250 V	1/3/0	-	-	-	2/6/0	1/3/0	-	-	-	-	-
CDM	ESD - CDM	500 V	1/3/0	-	-	-	-	-	-	1/3/0	1/3/0	1/3/0	-
CDM	ESD - CDM	750 V	-	-	-	-	-	-	-	1/3/0	1/3/0	1/3/0	-
CDM	ESD - CDM	1000 V	-	-	-	-	-	-	-	-	1/3/0	-	1/3/0
CDM	ESD - CDM	1500 V	-	-	-	1/3/0	-	-	6/18/0	-	-	-	-
BLR	Board Level Reliability, Temp Cycle, -40/125C	1000 Cycles	-	1/32/0	1/32/0	-	-	-	-	1/32/0	-	-	-
BLR	Board Level Reliability, Temp Cycle, -40/85C	1000 Cycles	-	-	-	-	-	-	1/32/0	-	-	-	-
ED	Electrical Characterization, side by side	Per Datasheet Parameters	Pass	-	-	-	-	-	-	-	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	-	Pass	-	-	-	Pass	Pass	Pass	Pass	Pass
FLAM	Flammability (IEC 695-2-2)	-	-	-	-	-	-	-	3/15/0	-	-	-	3/15/0
FLAM	Flammability (UL 94V-0)	-	-	-	-	-	-	-	3/15/0	-	-	-	3/15/0
FLAM	Flammability (UL-1694)	-	-	-	-	-	-	-	3/15/0	-	-	-	3/15/0
HAST	Biased HAST, 110C/85%RH	264 Hours	-	3/231/0	-	3/231/0	-	3/231/0	3/231/0	-	-	-	1/77/0
HBM	ESD - HBM	1000 V	-	-	-	-	2/6/0	1/3/0	-	-	1/3/0	-	-

Type	Test Name / Condition	Duration	Qual Deviate: <u>OM</u> <u>AP5</u> <u>912</u> <u>ZVL</u>	QBS Package Reference: <u>AM351</u> <u>7ZCN</u>	QBS Package Reference: <u>CODM</u> <u>IOZW</u> <u>CR</u>	QBS Package Reference: <u>LMK0</u> <u>4616Z</u> <u>CRR</u>	QBS Package Reference: <u>MSP43</u> <u>0FG43</u> <u>9IZCA</u>	QBS Package Reference: <u>MSP43</u> <u>0FR59</u> <u>94IZV</u> <u>W</u>	QBS Package Reference: <u>PCD32</u> <u>15C00</u> <u>AZBH</u> <u>R</u> , <u>PCD32</u> <u>15C00</u> <u>BZBH</u> <u>R</u>	QBS Package Reference: <u>TMP57</u> <u>0LS313</u> <u>7BZW</u> <u>TOQ1</u>	QBS Package Reference: <u>TMS32</u> <u>0DM64</u> <u>46ZW</u> <u>T</u>	QBS Package Reference: <u>TPS65</u> <u>9038T</u> <u>ZWSR</u> <u>Q1</u>	QBS Package Reference: <u>TS3DD</u> <u>R4000</u> <u>ZBAR</u>
HBM	ESD - HBM	2000 V	-	-	-	-	2/6/0	-	6/18/0	1/3/0	1/3/0	1/3/0	-
HBM	ESD - HBM	3000 V	-	-	-	-	-	-	-	-	-	-	1/3/0
HBM	ESD - HBM	4000 V	-	-	-	1/3/0	-	-	-	-	-	-	-
HTOL	Life Test, 90C	2000 Hours	-	-	-	-	-	-	-	-	3/387/0	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	-	-	6/462/0	3/231/0	-	3/231/0	-
HTOL	Life Test, 115C	1000 Hours	-	-	-	1/77/0	-	-	-	-	-	-	-
HTOL	Life Test, 140C	480 hours	-	-	-	-	-	-	-	-	-	-	1/77/0
HTSL	High Temp Storage Bake 150C	1000 Hours	3/23/1/0	3/45/0	-	1/77/0	3/231/0	3/231/0	3/231/0	1/45/0	3/231/0	-	-
HTSL	High Temp Storage Bake 150C	500 Hours	-	-	-	-	-	-	-	-	-	2/90/0	-
HTSL	High Temp Storage Bake 170C	420 hours	-	-	-	-	-	-	-	-	-	-	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
MSL	Moisture Sensitivity, JEDEC	Level 3-260C	3/36/0	-	-	-	3/36/0	3/36/0	3/36/0	3/36/0	3/36/0	3/36/0	3/36/0
PD	Physical Dimensions	(per mechanical drawing)	Pass	-	-	-	1/5/0	-	3/15/0	-	-	3/30/0	3/15/0
SD	Solderability	PB-Free Solder	3/66/0	-	-	-	1/12/0	-	3/66/0	-	-	-	3/66/0
TC	Temperature Cycle, -55/125C	1000 Cycles	-	3/231/0	-	-	-	-	-	3/231/0	3/231/0	3/231/0	-
TC	Temperature Cycle, -55/125C	700 Cycles	3/23/1/0	-	-	3/231/0	3/231/0	3/231/0	3/231/0	-	-	-	3/231/0
THB	Biased Temperature and Humidity, 85C/85% RH	1000 Hours	-	-	-	-	-	-	-	3/230/0	3/231/0	3/231/0	-
UHAST	Unbiased HAST 110C/85%RH	264 Hours	3/23/1/0	-	-	3/231/0	3/231/0	-	3/231/0	3/231/0	3/231/0	3/231/0	-

Type	Test Name / Condition	Duration	Qual Device: <u>OMAP5912ZVL</u>	QBS Package Reference: <u>AM3517ZCN</u>	QBS Package Reference: <u>CODMIOZVCR</u>	QBS Package Reference: <u>LMK04616ZCRR</u>	QBS Package Reference: <u>MSP430FG439IZCA</u>	QBS Package Reference: <u>MSP430FR5994IZVW</u>	QBS Package Reference: <u>PCD3215C00AZBHR, PCD3215C00BZBHR</u>	QBS Package Reference: <u>TMP570LS3137BZWTOQ1</u>	QBS Package Reference: <u>TMS320DM6446ZWT</u>	QBS Package Reference: <u>TPS659038TZWSRQ1</u>	QBS Package Reference: <u>TS3DDR4000ZBAR</u>
UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	3/231/0	-	-	-	-	-	-	-	-	3/231/0
WBP	Wire Pull	Wires	1/76/0	3/228/0	-	3/228/0	3/228/0	3/228/0	3/228/0	3/300/0	3/228/0	3/300/0	3/228/0
WBS	Ball Bond Shear	Wires	1/76/0	3/228/0	-	3/228/0	3/228/0	3/228/0	3/228/0	3/300/0	3/228/0	3/300/0	3/228/0

- QBS: Qual By Similarity*

- Qual Device OMAP5912ZVL is qualified at LEVEL3-260CG

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

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