PCN-PLP-002110

Product Change Notice

Issue Date: March 2, 2021

Change Type:
Adding PBGA 2nd source assembly supplier

Parts Affected:
BCM89231B1BPBG
BCM89231B1BPBGT
BCM89530B1BPBG
BCM89530B1BPBGT
BCM89531B1BPBG
BCM89531B1BPBGT
BCM89531B2BPBG
BCM89535B1BPBG
BCM89535B1BPBGT

Description and Extent of Change:
Add ASE-KH as a 2nd source for package assembly (current supplier is Amkor).

Reasons for Change:
Increased capacity and flexibility.

Effect of Change on Fit, Form, Function, Quality, or Reliability:
The device datasheet specification will remain the same, which will ensure product electrical performance remains the same. Appropriate electrical validation and reliability qualification will be performed on representative products to ensure normal parametric distribution, consistent electrical performance, and reliability. There will be a change to the Mold Compound characteristics as shown below; in addition, there may be a slight difference in the mold compound appearance.

Mold Compound Characteristics	Amkor	ASE-KH
Tg (glass transition temperature) (°C):	165	150
CTE (above Tg) (ppm/°C):	12	14
CTE (below Tg) (ppm/°C):	39	43

The part number will not change, but there will be a change to the date code prefix (highlighted in yellow below).

Part Marking	Amkor	ASE-KH
Date Code	TAYYMM	TEYYMM

YY = Year; MM = Month

Effective Date of Change:
Product shipments using this change will begin after **31-Aug-2021**. Timing of shipment of the changed part will vary by part number depending on qualification completion, customer demand, and inventory levels.

Sample Availability:
Samples assembled at ASE-KH will be available after **15-May-2021**. Please contact your Broadcom Sales Representative by **31-Mar-2021** to reserve your samples.

Qualification Data:

Qualification data will be available in **Aug-2021**. Please reference the qualification plan below.

Test	AEC#	Method	Condition	Sample Size	Duration	Result
PC/MSL	A1	JESD22-A113, J-STD-020	Level 3 (soak: 30°C, 60%RH); Peak Reflow Temp = 260°C.	All units for bHAST, uHAST, TC, PTC	192 hrs	Pending
bHAST	A2	JESD22-A110	Pre-con Parts; 130°C, 85%RH.	3 lots * 77 units/lot = 231 units	96 hrs	Pending
uHAST	A3	JESD22-A118	Pre-con Parts; 130°C, 85%RH.	3 lots * 77 units/lot = 231 units	96 hrs	Pending
TC	A4	JESD22-A104	Pre-con Parts; air to air; -55°C to 125°C.	3 lots * 77 units/lot = 231 units	1000 cys	Pending
PTC	A5	JESD22-A105	Pre-con Parts; Ta=-40°C to 105°C.	1 lot * 45 units	1000 cys	Pending
HTSL	A6	JESD22-A103	Ta = +150°C	1 lot * 45 units	1000 hrs	Pending
HTOL	B1	JESD22-A108	Ta = 125°C, >80% Node Toggle; VDD=1.1*VDDnom.	1 lot * 77 units	1000 hrs	Pending
WBS	C1	AEC-Q100-001	Cpk > 1.67	1 lot * 5 units (30 bonds/each)	-	Pending
WBP	C2	MIL-STD-883, Method 2011, Cond. C or D	Cpk > 1.67	1 lot * 5 units (30 bonds/each)	-	Pending
PD	C4	JEDEC JESD22-B100 and B108	Cpk > 1.67	3 lots * 10 units/lot = 30 units	-	Pending
SBS	C5	AEC-Q100-010	Cpk > 1.67	3 lots * 10 units/lot = 30 units (5 balls/each)	-	Pending

CDCQ Comparison:

All CDCQ items are the same, except as shown below.

Items from the CDCQ	Amkor	ASE-KH
6. Assembly Location:		
a. Facility name/plant #:	AMKOR (ATK-K4)	ASE-KH
17. Die Attach:		
a. Die attach material ID:	ABLEBOND 2300	ABLEBOND 2100A
b. Die attach method:	Epoxy	Epoxy
19. Mold Compound:		
a. Mold compound supplier & ID:	SUMITOMO A730 TYPE E	Hitachi CEL-9750ZHF series
b. Mold compound type:	Epoxy w/Silica Filler	Epoxy w/Silica Filler
c. Flammability rating:	UL 94 V0	UL 94 V0
d. Fire Retardant type/composition	NA	NA
e. Tg (glass transition temperature) (°C):	165	150
f. CTE (above & below Tg) (ppm/°C):	CTE1 (above Tg) = 12; CTE2 (below Tg) = 39	CTE1 (above Tg) = 14; CTE2 (below Tg) = 43

Please contact your Broadcom field sales engineer or Contact Center for any questions or support requirements. Please return any response as soon as possible, but **not to exceed 30 days**.