

Manual Update Sheet

# **TMS320F280x MicroStar BGA Discontinued and Redesigned**



## **ABSTRACT**

This document should be used in conjunction with the device data sheet and describes the updated package designator for the indicated devices.

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### **Trademarks**

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## 1 Package Redesign Details

### Explanation

The devices in the MicroStar BGA™ packaging were redesigned using a laminate nfBGA package. This nfBGA package offers datasheet-equivalent electrical performance. It is also footprint equivalent to the MicroStar BGA. For more details, please refer to this [nfBGA Packaging Application Report](#).

When referencing the device data sheet, use the new package designator in place of the discontinued package designator throughout the document.

The orderable addendum at the end of the device data sheet will reflect the new package designator.

See the following page or the end of the device data sheet for the updated nfBGA package drawing.

**Table 1-1. Package Designator**

Old Package Designator	New Package Designator
GGM	<a href="#">GBA</a>
ZGM	<a href="#">NMF</a>

### Reason for Discontinuance

Due to an equipment End-Of-Life notice from our substrate supplier, we are phasing out certain MicroStar BGA and MicroStar Junior™ BGA packaging devices and offering a Last Time Buy.

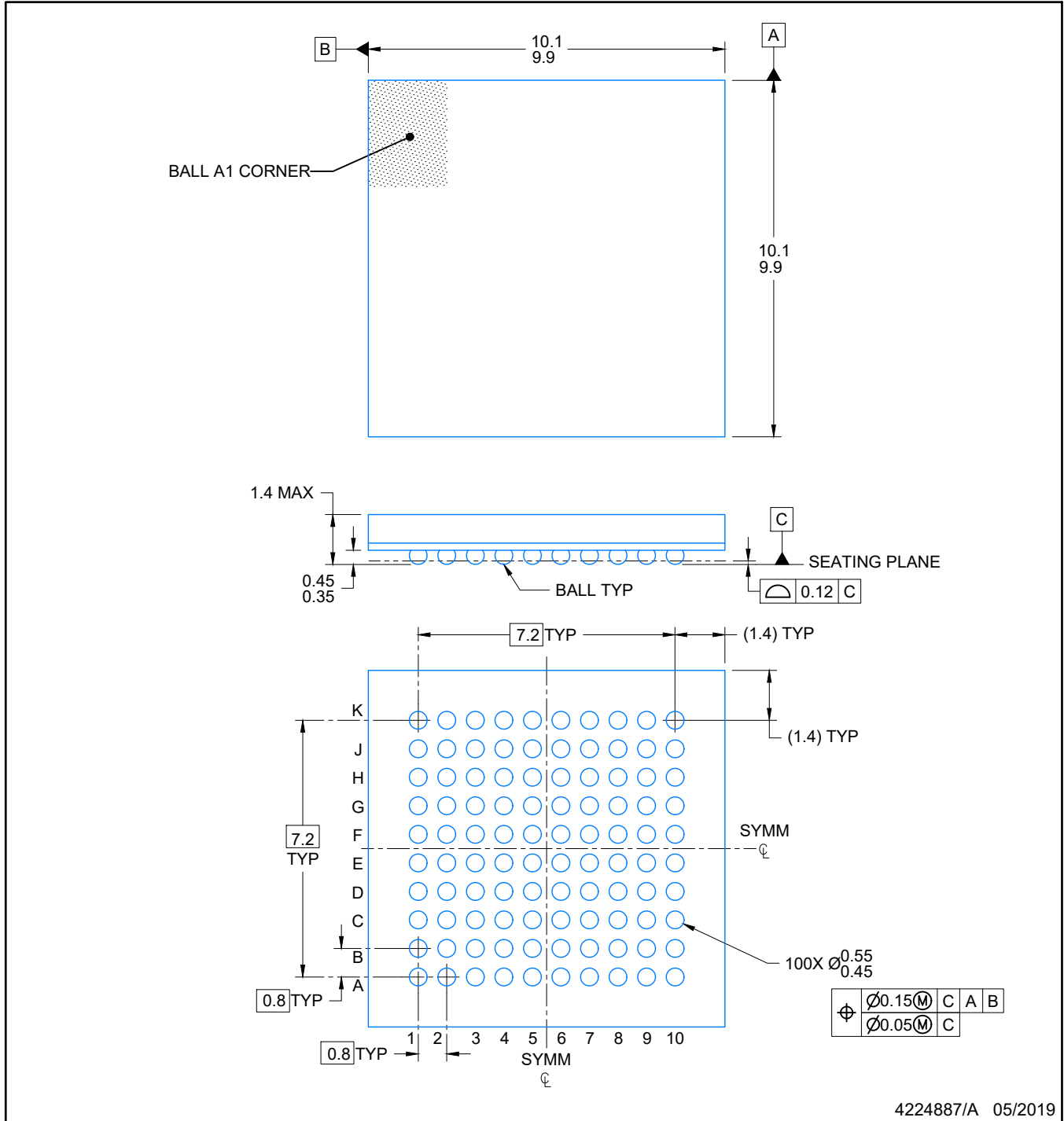
These devices have now been converted to an nfBGA package.

### Devices Affected

The following table describes the devices affected, the old and new package designators, and references to the device data sheet.

**Table 1-2. Devices and Nomenclature**

Device	Discontinued MicroStar BGA Device	Redesigned Laminate nfBGA Device	Device Data Sheet
TMS320F280x	TMS320F28015ZGMA TMS320F2801ZGMA TMS320F2802ZGMA TMS320F2802ZGMS TMS320F2806ZGMA TMS320F2806ZGMS TMS320F2808ZGMA TMS320F2808ZGMS TMS320F2809ZGMA TMS320F2809ZGMS	TMS320F28015NMFA TMS320F2801NMFA TMS320F2806NMFA TMS320F2806NMFS TMS320F2806NMFA TMS320F2806NMFS TMS320F2808NMFA TMS320F2808NMFS TMS320F2809NMFA TMS320F2809NMFS	<a href="#">SPRS230</a>
TMS320F280x	TMS320F2808GGMA TMS320F2808GGMS TMS320F2809GGMA TMS320F2809GGMS	TMS320F2808GBAA TMS320F2808GBAS TMS320F2809GBAA TMS320F2809GBAS	<a href="#">SPRS230</a>



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NOTES:

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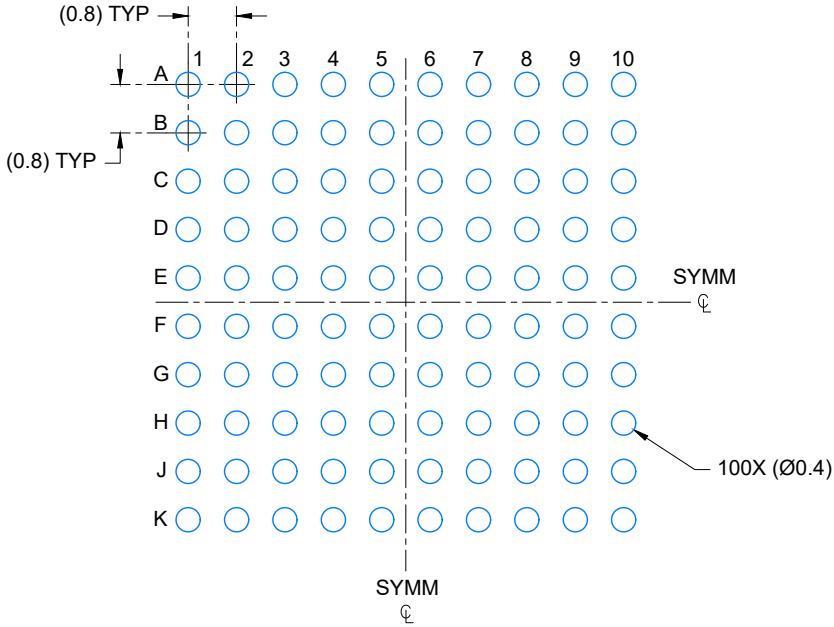
1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.

# EXAMPLE BOARD LAYOUT

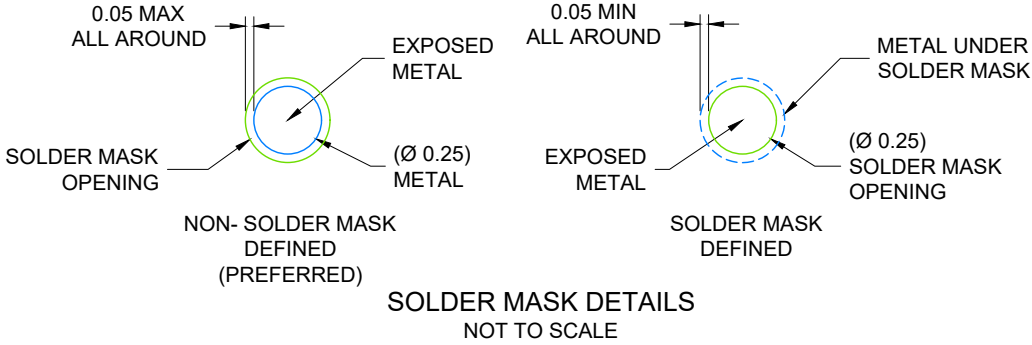
GBA0100A

NFBGA - 1.4 mm max height

PLASTIC BALL GRID ARRAY



LAND PATTERN EXAMPLE  
SCALE: 8X



SOLDER MASK DETAILS  
NOT TO SCALE

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NOTES: (continued)

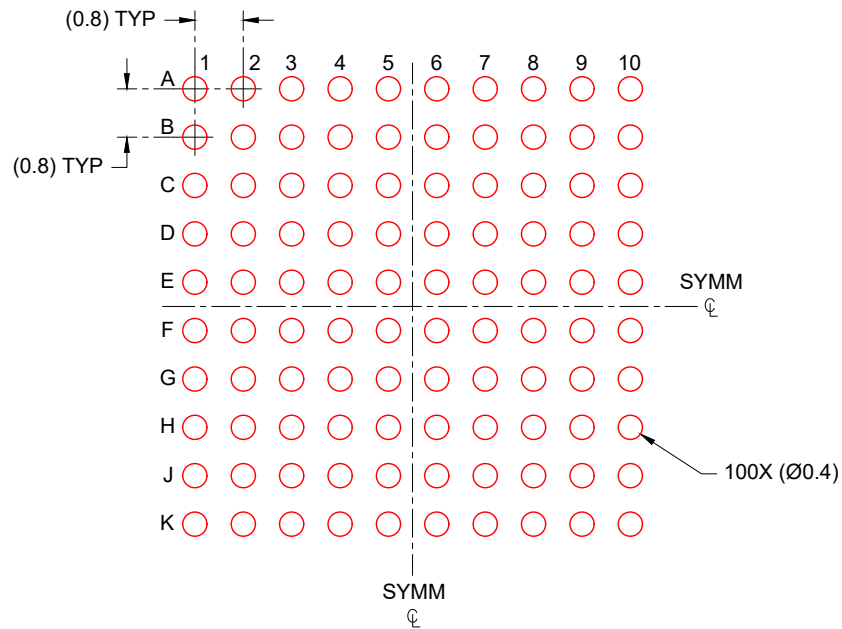
- 3. Final dimensions may vary due to manufacturing tolerance considerations and also routing constraints. Refer to Texas Instruments Literature number SNVA009 ([www.ti.com/lit/snva009](http://www.ti.com/lit/snva009)).

# EXAMPLE STENCIL DESIGN

GBA0100A

NFBGA - 1.4 mm max height

PLASTIC BALL GRID ARRAY

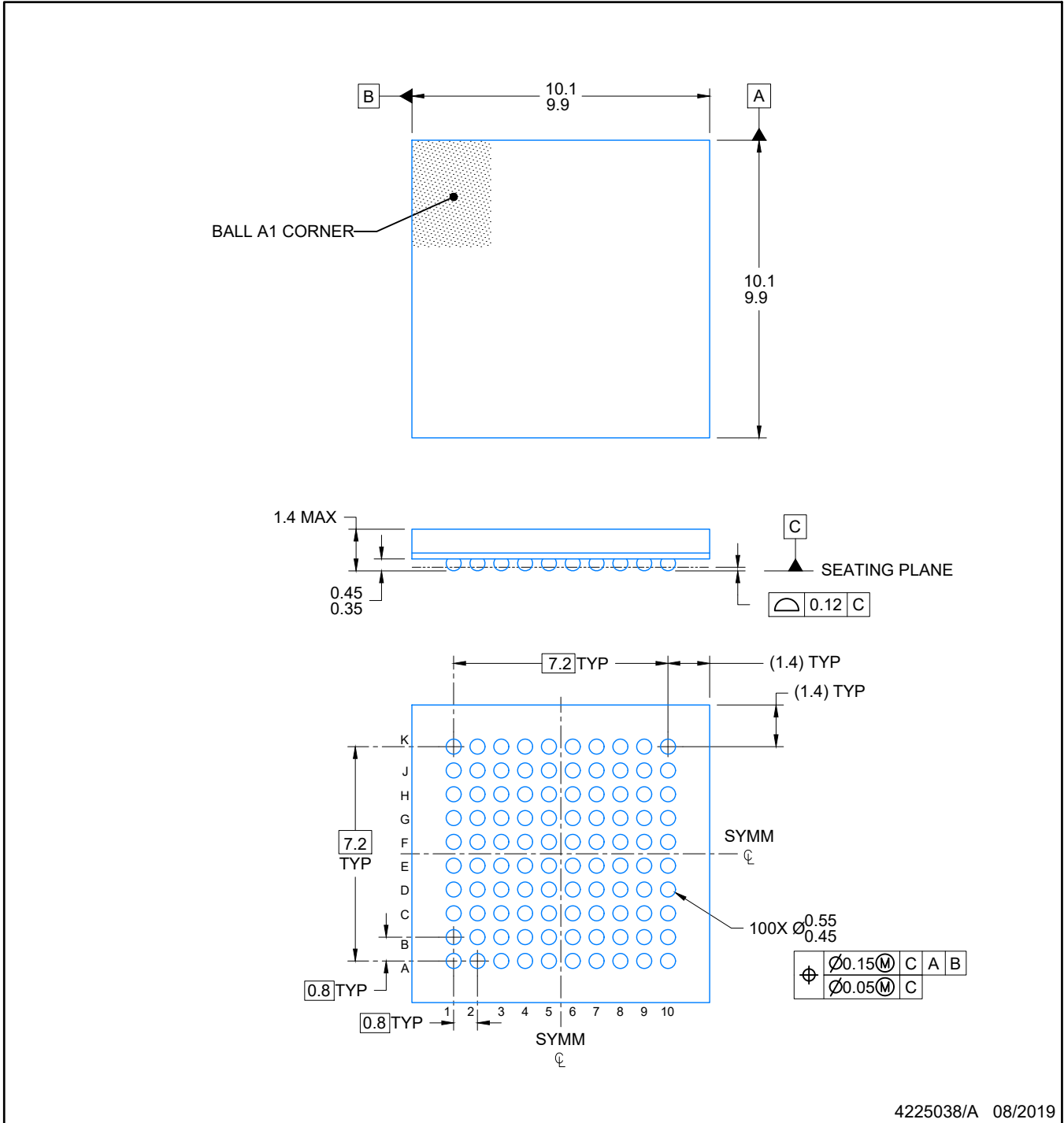


SOLDER PASTE EXAMPLE  
BASED ON 0.150 mm THICK STENCIL  
SCALE: 8X

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NOTES: (continued)

4. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release.



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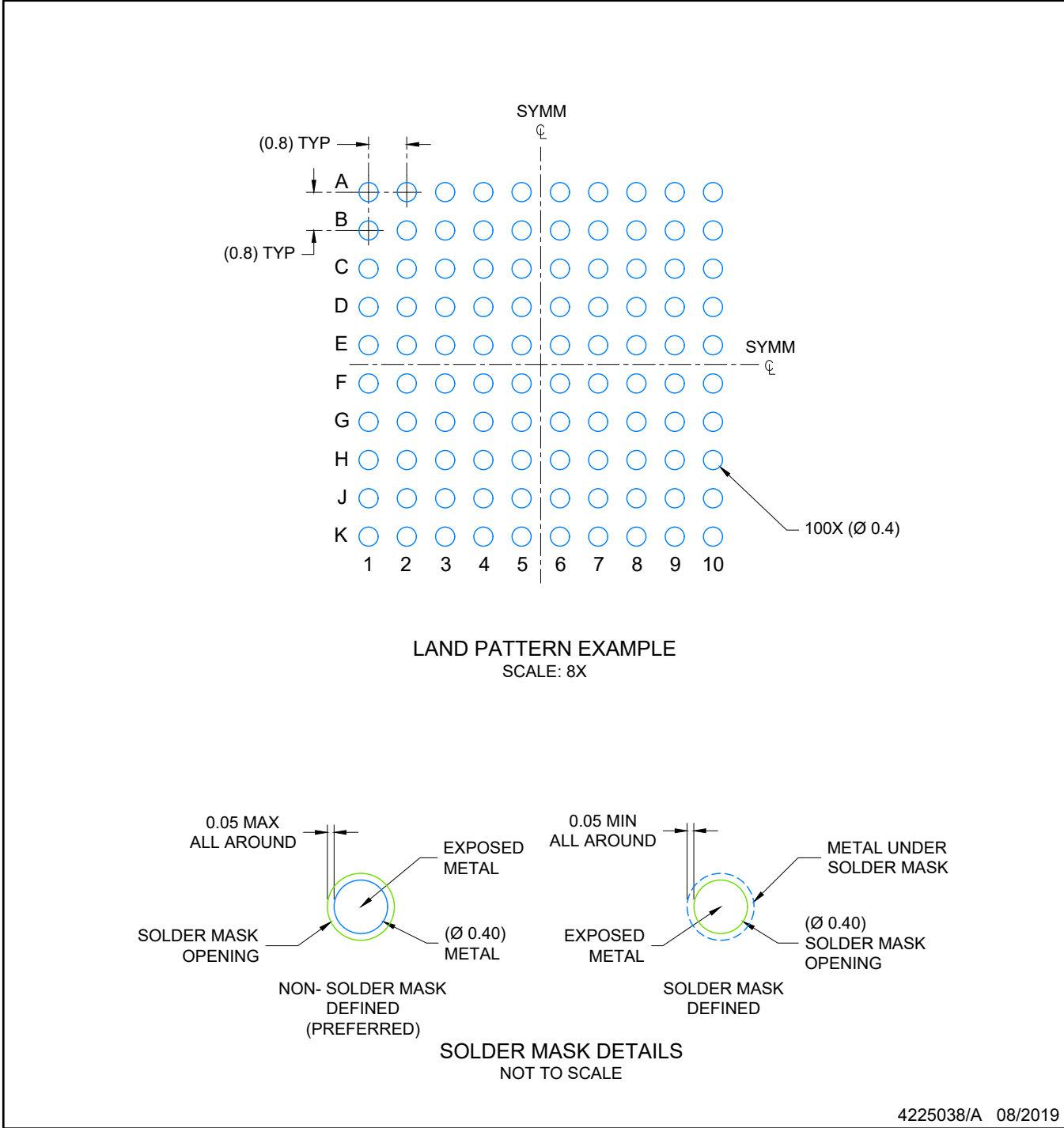
1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.

# EXAMPLE BOARD LAYOUT

NMF0100A

NFBGA - 1.4 mm max height

PLASTIC BALL GRID ARRAY



NOTES: (continued)

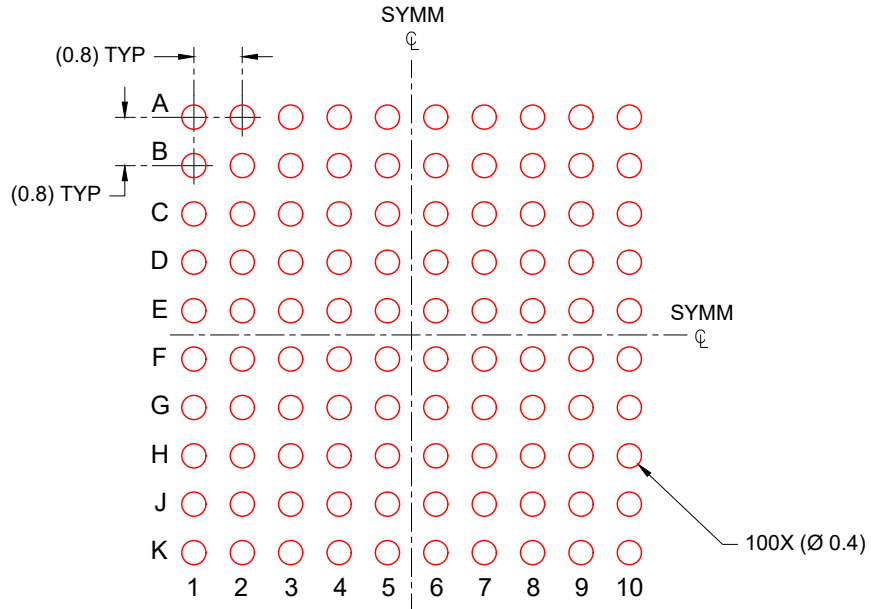
- 3. Final dimensions may vary due to manufacturing tolerance considerations and also routing constraints. Refer to Texas Instruments Literature number SNVA009 ([www.ti.com/lit/snva009](http://www.ti.com/lit/snva009)).

# EXAMPLE STENCIL DESIGN

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NFBGA - 1.4 mm max height

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SOLDER PASTE EXAMPLE  
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4. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release.



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