

MicroStar BGA Discontinued and Redesigned



Precision ADC

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. The nFBGA package offers data sheet-equivalent electrical performance and data sheet-equivalent or better thermal performance. It provides the same X and Y dimensions as MicroStar BGA, and provides pin-to-pin and footprint compatibility. 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 Package 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
ZQE	ZXH
GQR	GVX

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.

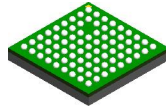
These devices have now been converted to an nFBGA package.

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
TLV320AIC3106	TLV320AIC3106I ZQER	TLV320AIC3106I ZXHR	SLAS509F
TLV320AIC33	TLV320AIC33I ZQER	TLV320AIC33I ZXHR	SLAS480B
TLV320AIC33	TLV320AIC33I ZQE	LV320AIC33I ZXH	SLAS480B
TLV320AIC33	TLV320AIC33I GQE	TLV320AIC33I GVX	SLAS480B

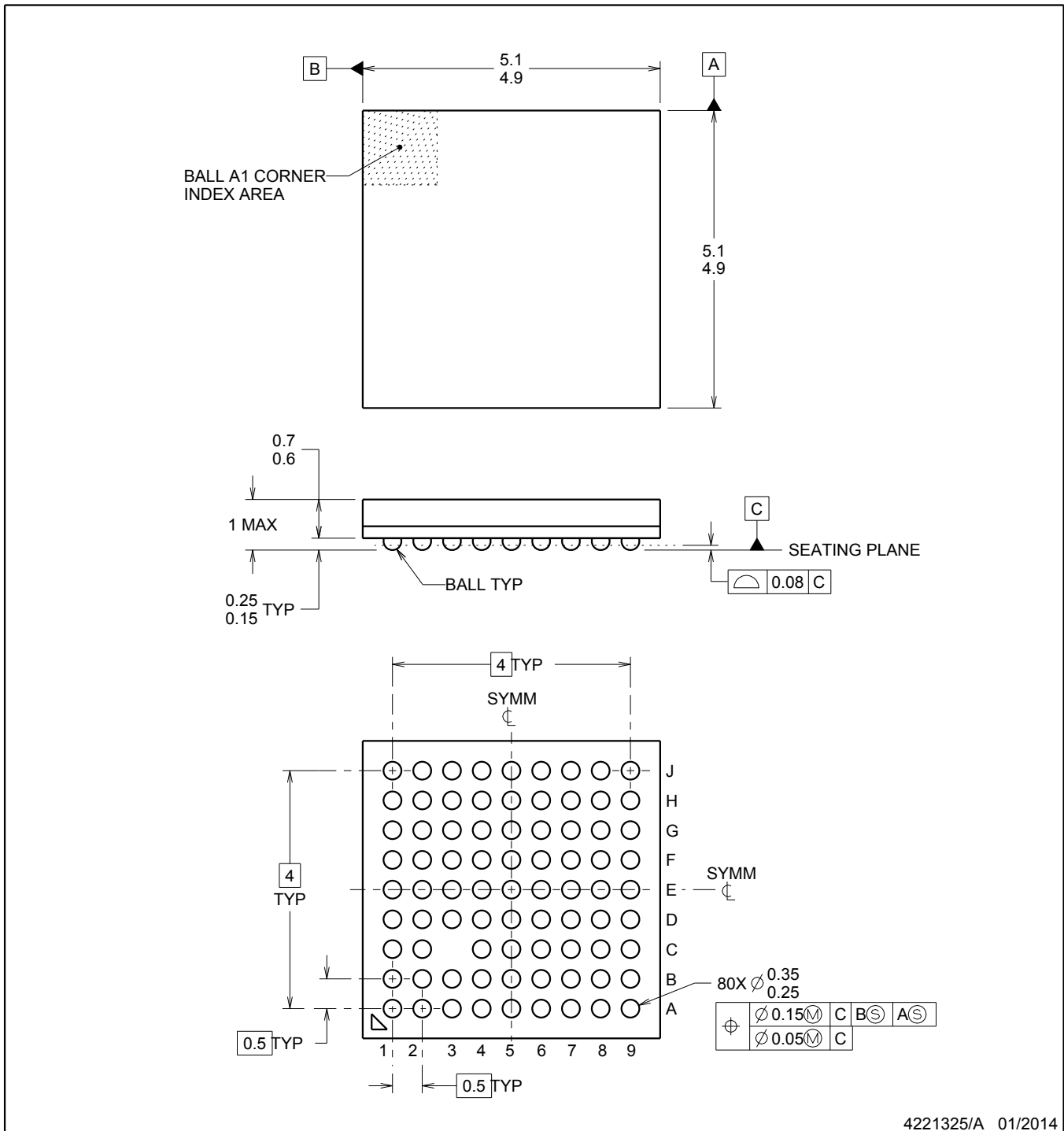


PACKAGE OUTLINE

ZXH0080A

NFBGA - 1 mm max height

BALL GRID ARRAY



NOTES:

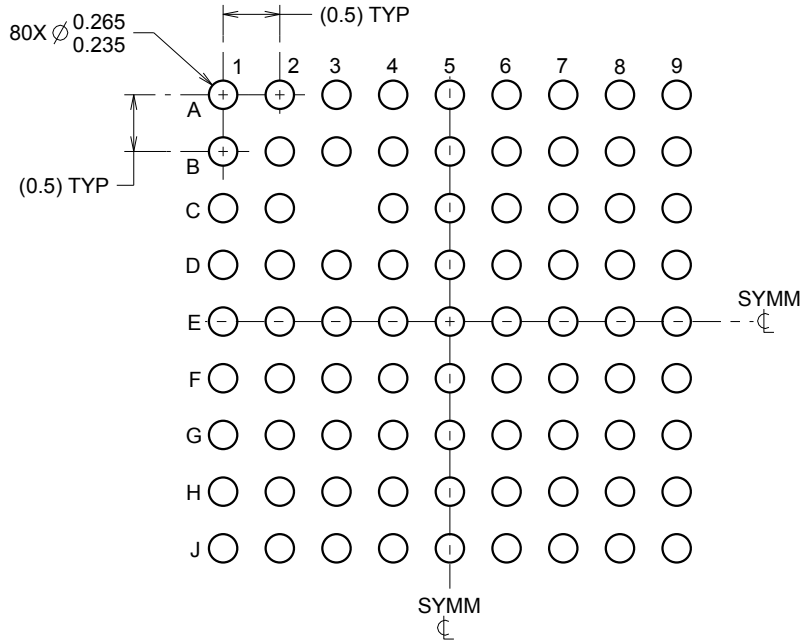
1. All linear dimensions are in millimeters. Any dimensions in parenthesis is for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This is a Pb-free solder ball design.

EXAMPLE BOARD LAYOUT

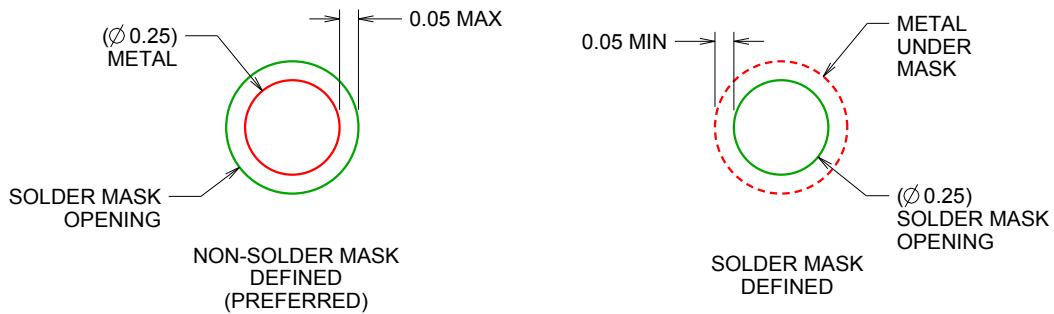
ZXH0080A

NFBGA - 1 mm max height

BALL GRID ARRAY



LAND PATTERN EXAMPLE
SCALE:15X



SOLDER MASK DETAILS
NOT TO SCALE

4221325/A 01/2014

NOTES: (continued)

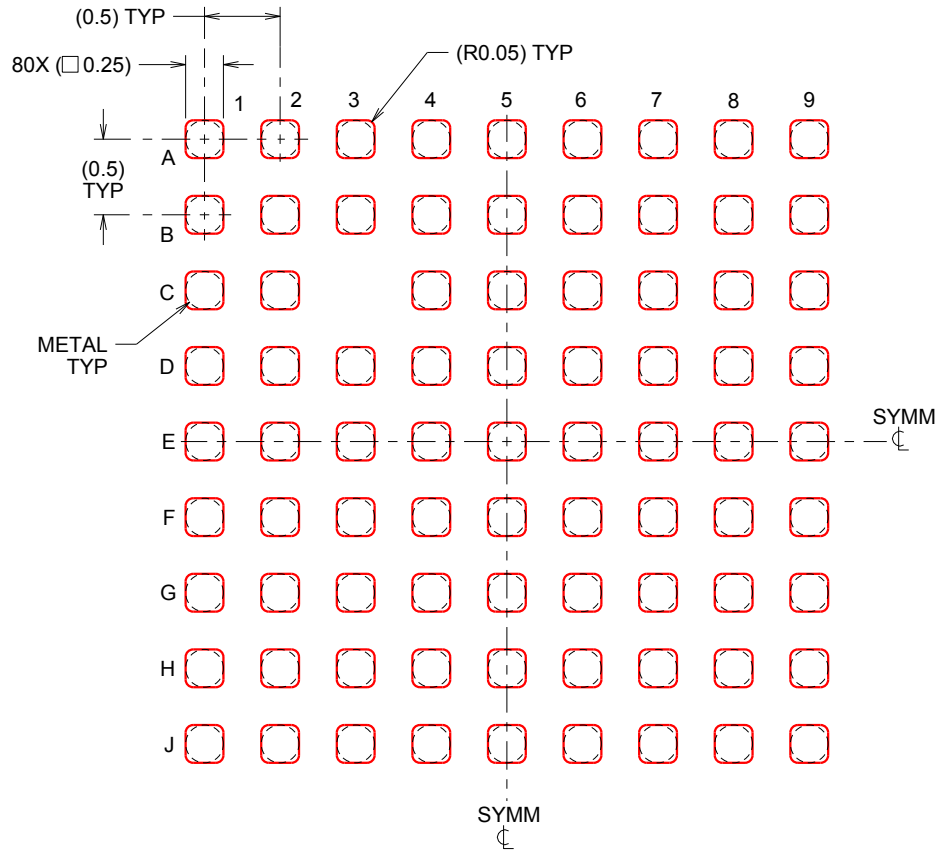
- Final dimensions may vary due to manufacturing tolerance considerations and also routing constraints. See Texas Instruments Literature No. SBVA017 (www.ti.com/lit/sbva017).

EXAMPLE STENCIL DESIGN

ZXH0080A

NFBGA - 1 mm max height

BALL GRID ARRAY

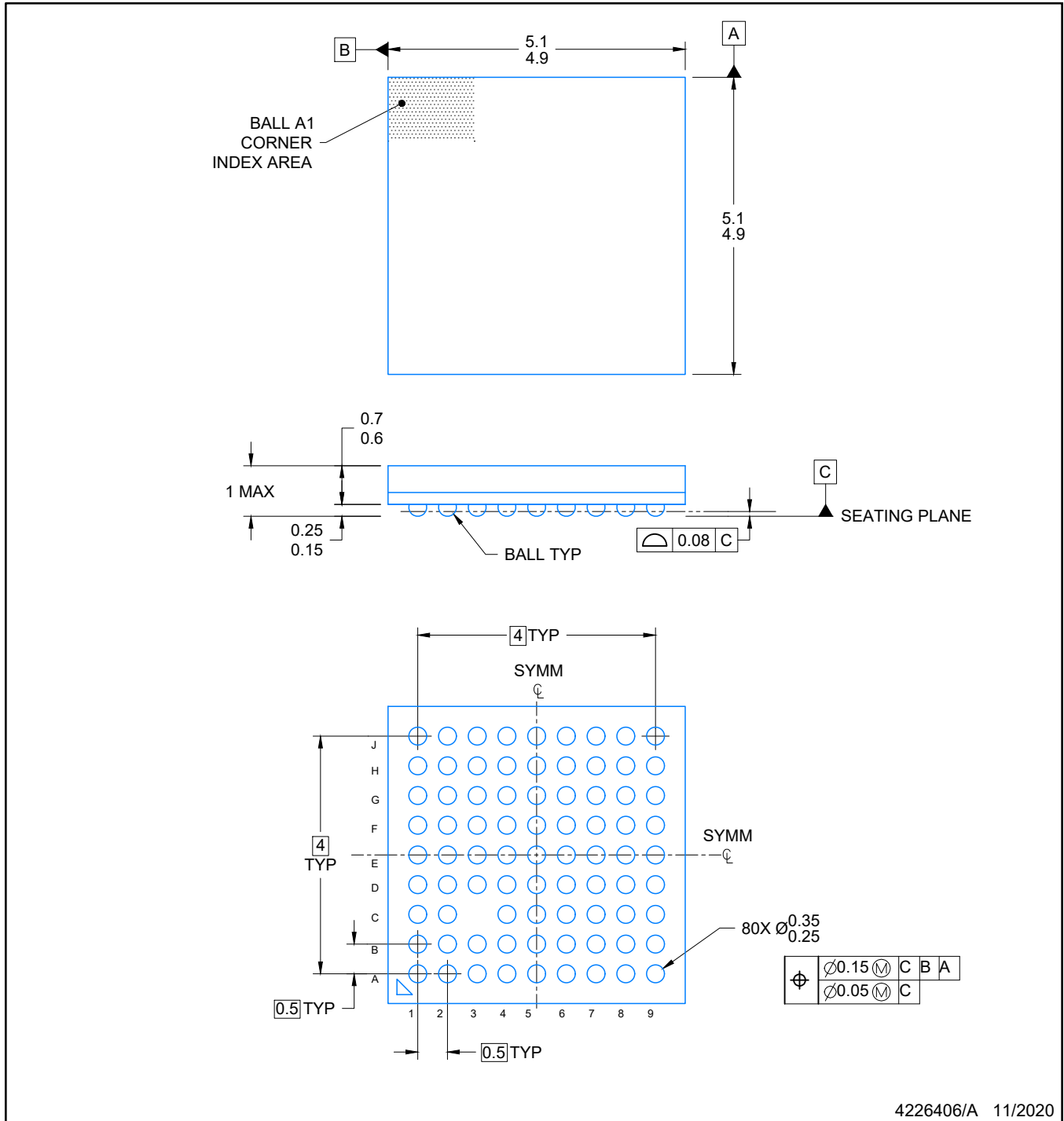


SOLDER PASTE EXAMPLE
BASED ON 0.1 mm THICK STENCIL
SCALE:20X

4221325/A 01/2014

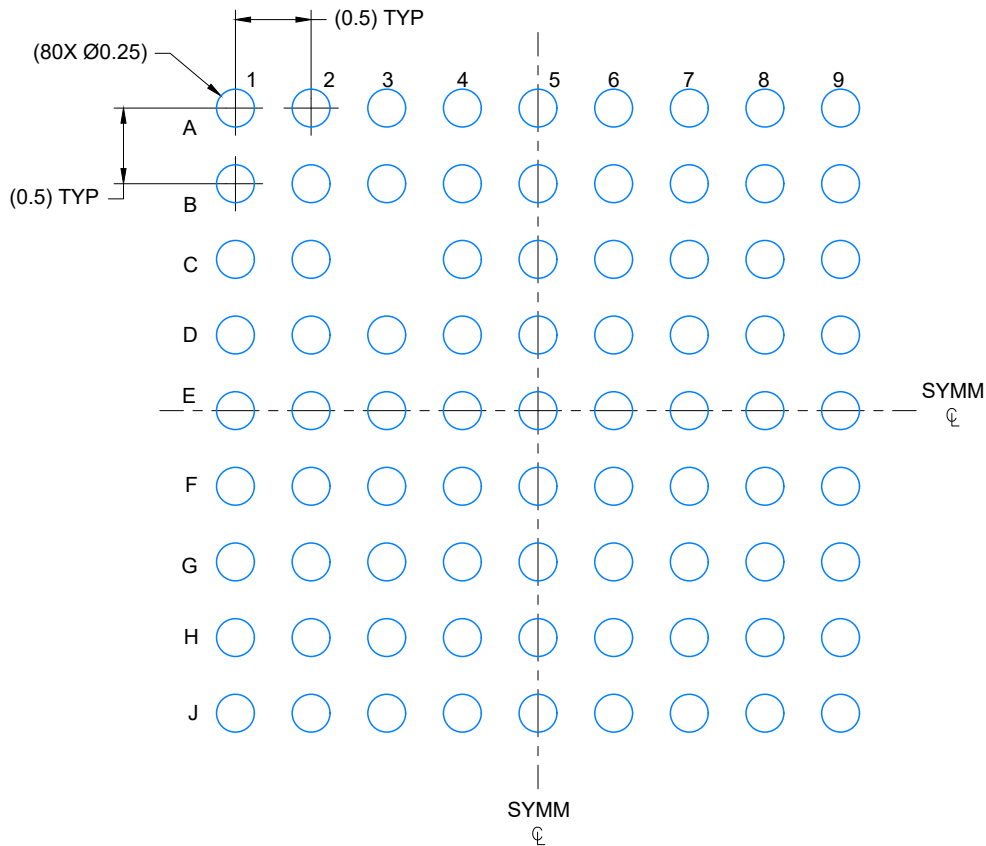
NOTES: (continued)

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

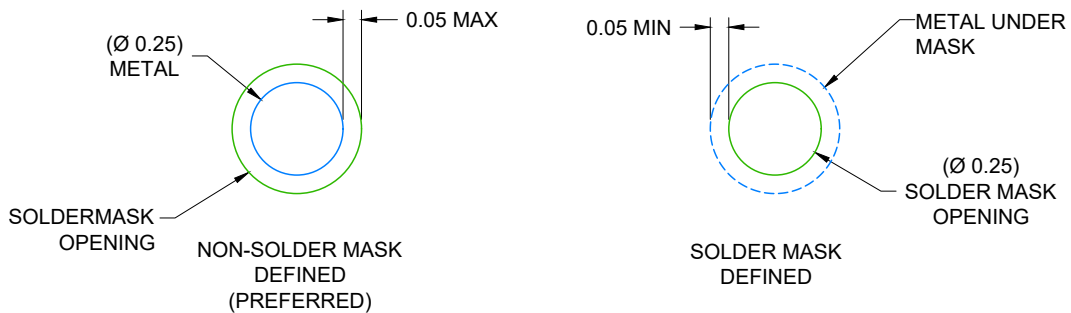


NOTES:

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.
3. The package thermal pad must be soldered to the printed circuit board for optimal thermal and mechanical performance.



LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE: 20X

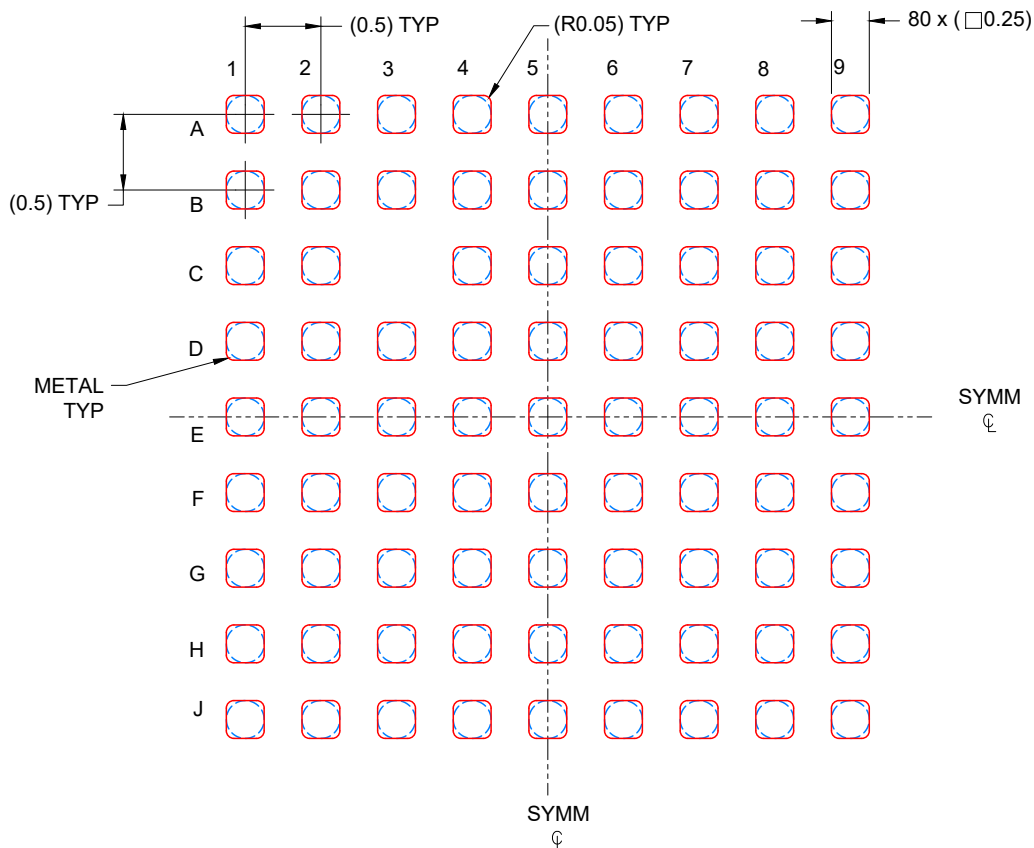


SOLDER MASK DETAILS
NOT TO SCALE

4226406/A 11/2020

NOTES: (continued)

4. This package is designed to be soldered to a thermal pad on the board. For more information, see Texas Instruments literature number SLUA271 (www.ti.com/lit/slua271).
5. Vias are optional depending on application, refer to device data sheet. If any vias are implemented, refer to their locations shown on this view. It is recommended that vias under paste be filled, plugged or tented.



SOLDER PASTE EXAMPLE
 BASED ON 0.1 mm THICK STENCIL
 SCALE: 20X

NOTES: (continued)

- 6. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.

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