To request a full data sheet, please send an email to: <u>display\_contact@list.ti.com</u>.



1-Nov-2013

### PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish (6)	MSL Peak Temp	Op Temp (°C)	Device Marking (4/5)	Samples
TPS65132A0YFFR	ACTIVE	DSBGA	YFF	15	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 150	TPS 65132A0	Samples
TPS65132AYFFR	ACTIVE	DSBGA	YFF	15	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 85	TPS 65132A	Samples
TPS65132B0YFFR	ACTIVE	DSBGA	YFF	15	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 85	TPS 65132B0	Samples
TPS65132BYFFR	ACTIVE	DSBGA	YFF	15	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 85	TPS 65132B	Samples

<sup>(1)</sup> The marketing status values are defined as follows:

ACTIVE: Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE:** TI has discontinued the production of the device.

<sup>(2)</sup> Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Pb-Free (RoHS Exempt):** This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

<sup>(3)</sup> MSL, Peak Temp. - The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

<sup>(4)</sup> There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

(5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.

<sup>(6)</sup> Lead/Ball Finish - Orderable Devices may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead/Ball Finish values may wrap to two lines if the finish value exceeds the maximum column width.



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1-Nov-2013

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# PACKAGE MATERIALS INFORMATION

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#### TAPE AND REEL INFORMATION





### QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



Device	Package Type	Package Drawing		SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
TPS65132A0YFFR	DSBGA	YFF	15	3000	180.0	8.4	1.61	2.21	0.7	4.0	8.0	Q1
TPS65132AYFFR	DSBGA	YFF	15	3000	180.0	8.4	1.61	2.21	0.7	4.0	8.0	Q1
TPS65132B0YFFR	DSBGA	YFF	15	3000	180.0	8.4	1.61	2.21	0.7	4.0	8.0	Q1
TPS65132BYFFR	DSBGA	YFF	15	3000	180.0	8.4	1.61	2.21	0.7	4.0	8.0	Q1

TEXAS INSTRUMENTS

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# PACKAGE MATERIALS INFORMATION

2-Nov-2013

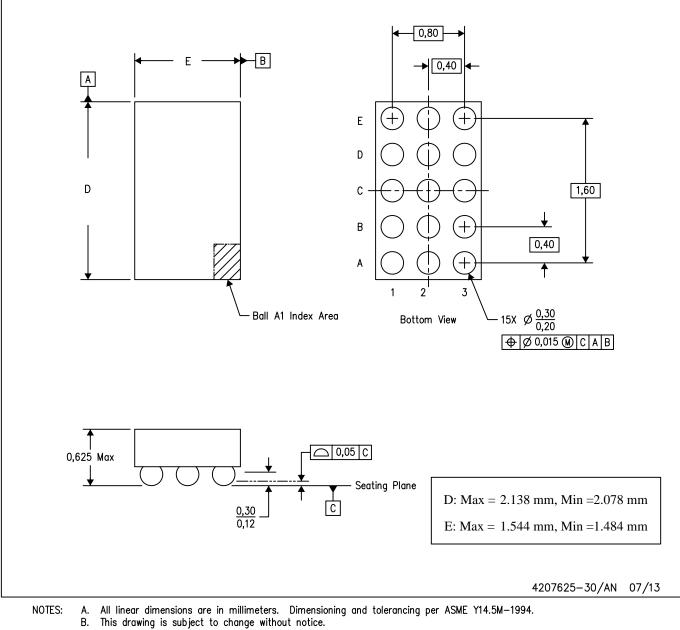


\*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
TPS65132A0YFFR	DSBGA	YFF	15	3000	182.0	182.0	17.0
TPS65132AYFFR	DSBGA	YFF	15	3000	182.0	182.0	17.0
TPS65132B0YFFR	DSBGA	YFF	15	3000	182.0	182.0	17.0
TPS65132BYFFR	DSBGA	YFF	15	3000	182.0	182.0	17.0

YFF (R-XBGA-N15)

DIE-SIZE BALL GRID ARRAY



B.

C. NanoFree™ package configuration.

PowerPAD is a trademark of Texas Instruments.



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