PCN Number:	20141203000	**PCN Date:**	12/04/2014
Title:	TPS2592AA/B/Z Datasheet change		
Customer Contact:	PCN Manager	**Phone:** +1(214) 480-6037	**Dept:** Quality Services
Change Type:			

☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☒	Data Sheet	☐	Wafer Bump Material
☐	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing an information only notification, etc.

The product datasheet(s) is being updated to Split the datasheet into A, B, Z versions and reduce the current limit ranges.

The datasheet number will be changing.

Device Family	Change From:	Change To:
TPS2592AA/AL	SLVSC11B	**SLVSC11C**
TPS2592BA/BL	SLVSC11B	**SLVSCU2**
TPS2592ZA/ZL	SLVSC11B	**SLVSCU3**

These changes may be reviewed at the datasheet links provided.

http://www.ti.com/product/tps2592aa?qgpn=tps2592aa
http://www.ti.com/product/tps2592ba?qgpn=tps2592ba
http://www.ti.com/product/tps2592za?qgpn=tps2592za

The following section provides further details on specification changes.

Primary Spec Changes from Revision B (2013) to Revision C Page

• Added Maximum power dissipation in Absolute Maximum Ratings..... 5

		MIN	MAX	UNIT
Maximum power dissipation(3), P_D = (V_{IN} – V_{OUT}) x I_{OUT}	T_A = -40°C to +85 °C		40	W
	T_A = 0°C to +85 °C		50	

(3) Refer detailed explanation in the application section *Maximum Device Power Dissipation Considerations*

Change From: (page 3)

• Changed Continuous output current and Change Resistance values.....3

		MIN	TYP	MAX	UNIT
Continuos output current	I_{OUT}	0		5	A
Resistance	ILIM	40.2	100	162	kΩ

Change To: (page 5)

• Changed Continuous output current and Change Resistance values.....5

			MIN	TYP	MAX	UNIT
Continuous output current	I_{OUT}	T_A = –40°C to +85°C	0		2.8	A
		T_A = 0°C to +85°C	0		3.4	
Resistance	ILIM	T_A = –40°C to +85°C	10		80.6	kΩ
		T_A = 0°C to +85°C	10		100	

Updated (page 23)

10.3 Maximum Device Power Dissipation Considerations

To prevent damage to the TPS2592x, it is necessary to keep internal power dissipation (P_D) below the levels specified in below Table. The power dissipation is defined as (P_D = (V_{IN} – V_{OUT}) x I_{OUT}).

During normal operation P_D is low (typically < ½ Watt) because the FET is fully on with low (V_{IN} – V_{OUT}). However, during short circuit and surge protection the FET may be only partially on and (V_{IN} – V_{OUT}) can be high.

Example 1: Short Circuit on Output → VIN = 12 V, I_{LIMIT} = 3 A. T_J = –40°C

• P_D = 12 V x 3 A = 36 W

• OK → (P_D = 36 W) < (P_{D_MAX} = 40 W)

Example 2: Short Circuit on Output → VIN = 13.2 V, I_{LIMIT} = 3.7 A

• P_D = 13.2 V x 3.7 A = 49 W

• OK at T_J = 0°C → (P_D = 49 W) < (P_{D_MAX} at 0°C = 50 W)

• NOT OK at T_J = –40°C → (P_D = 51 W) > (P_{D_MAX} at –40°C = 40 W)

Example 3: Surge Clamp VIN = 12 V, I_{LIMIT} = 3 A. T_J = 0°C, V_{SURGE} =19 V, V_{CLAMP} = 15 V

• P_D = (19 – 15) x 3 A = 12 Watt

• OK at 0°C → (PD = 12 W) < (PD_MAX at 0°C = 50 W)

5 Revision History

DATE	REVISION	NOTES
December 2014	*	Initial release

Primary Spec Changes — Page

		MIN	MAX	UNIT
Maximum power dissipation(3), P_D = (V_{IN} – V_{OUT}) x I_{OUT}	T_A = -40°C to +85 °C		40	W
	T_A = 0°C to +85 °C		50	

(3) Refer detailed explanation in the application section *Maximum Device Power Dissipation Considerations*

Updated (page 23)

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Change From: (page 3)

• Changed Continuous output current and Change Resistance values.....3

		MIN	TYP	MAX	UNIT
Continuos output current	I_{OUT}	0		5	A
Resistance	ILIM	40.2	100	162	kΩ

Change To: (page 4)

• Changed Continuous output current and Change Resistance value..... 4

		MIN	TYP	MAX	UNIT
Continuous output current	I_{OUT}	0		1.7	A
Resistance	ILIM	10		45.3	kΩ

Reason for Change:
To more accurately reflect device characteristics.
Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):
Electrical specification performance changes as indicated above.
Changes to product identification resulting from this PCN:
None.
Product Affected:

TPS2592AADRCR	TPS2592ALDRCT	TPS2592BLDRCR	TPS2592ZADRCT
TPS2592AADRCT	TPS2592BADRCR	TPS2592BLDRCT	
TPS2592ALDRCR	TPS2592BADRCT	TPS2592ZADRCR	

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

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USA	PCNAmericasContact@list.ti.com
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Asia Pacific	PCNAsiaContact@list.ti.com
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