

PCN Number:	20240229001.0	PCN Date:	March 04, 2024
Title:	Datasheet for LMG342xR030 and LMG342xR050		
Customer Contact:	Change Management team	Dept:	Quality Services
Change Type:	Electrical Specification		

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing an information only notification. The product datasheet(s) is being updated as summarized below. The following change history provides further details.



LMG3422R030, LMG3426R030

SNOSDA7E – SEPTEMBER 2020 – REVISED FEBRUARY 2024

Changes from Revision D (March 2022) to Revision E (February 2024)	Page
• Removed LMG3425R030 device from the data sheet	1
• Added LMG3426R030 device to the data sheet and set to Production Data.....	1
• Removed Switching Performance at >100V/ns graph.....	1
• Updated text in <i>Features</i> section.....	1
• Updated text and added table in the <i>Description</i> section. Removed <i>Device Comparison</i> section that was located after the <i>Table of Contents</i> section. Added table contains the information that was in the removed <i>Device Comparison</i> table.....	1
• Added Footnote (1) to the Recommended Operating Conditions section.....	5
• Updated Thermal Information section.....	5
• Changed 50mA to 40mA in the VNEG output voltage test condition in the Buck Boost Converter sub-section of the Electrical Characteristics section.....	5
• Changed $V_{RDRV} = 0V$ to $R_{RDRV} = 0\Omega$ in the Turn-on slew rate third test condition in the Gate Driver sub-section of the Electrical Characteristics section.....	5
• Removed the "Short-circuit current to overcurrent fault trip difference" specification in the Faults sub-section of the Switching Characteristics section. The specification is redundant since it only reports the typical difference of the first two specifications in the Faults sub-section.....	5
• Added Drain Current vs Drain-Source Voltage and Repetitive Safe Operation graphs in <i>Typical Characteristics</i> section.....	10
• Added the <i>Safe Operation Area (SOA)</i> section.....	15
• Updated text in the <i>Overview</i> section.....	16
• Updated text in the <i>GaN FET Operation Definitions</i> section.....	19
• Updated text in <i>Direct-Drive GaN Architecture</i> section.....	19
• Added sentence clarifying application usage in <i>Drain-Source Voltage Capability</i> section.....	20
• Updated text and added figures in the <i>Internal Buck-Boost DC-DC Converter</i> section.....	21
• Updated text in the <i>VDD Bias Supply</i> section.....	22
• Updated title and text in the <i>Fault Protection</i> section.....	22
• Updated text and Figure 7-5 in the <i>Overcurrent Protection and Short-Circuit Protection</i> section.....	22
• Updated title in the <i>Overtemperature Shutdown Protection</i> section.....	24
• Updated text in the <i>UVLO Protection</i> section.....	25
• Added the <i>High-Impedance RDRV Pin Protection</i> section.....	25
• Updated text and table, and added table in the <i>Fault Reporting</i> section.....	25
• Updated text and added note in the <i>Drive-Strength Adjustment</i> section.....	25

• Updated text, added equation, and added table in the <i>Temperature-Sensing Output</i> section.....	27
• Updated text in the <i>Overtemperature-Shutdown Ideal-Diode Mode</i> section.....	27
• Added the <i>Start-Up Sequence</i> section.....	31
• Removed Caution and replaced figure with two new figures in <i>Typical Application</i> section.....	34
• Updated text in the <i>Slew Rate Selection</i> section.....	36
• Removed the <i>Startup and Slew Rate with Bootstrap High-Side Supply</i> section.....	36
• Updated text in the <i>Signal Level-Shifting</i> section.....	36
• Updated text and replaced figure with two new figures in <i>Buck-Boost Converter Design</i> section.....	37
• Updated text in the <i>Power Supply Recommendations</i> section.....	38
• Updated text in the <i>Using an Isolated Power Supply</i> section.....	38
• Updated text in the <i>Using a Bootstrap Diode</i> section.....	38
• Added figure in the <i>Layout Guidelines</i> section.....	39
• Updated text and added equation in the <i>Power-Loop Inductance</i> section.....	40



Changes from Revision B (May 2022) to Revision C (February 2024)

Page

• Removed LMG3425R050 device from the data sheet	1
• Added LMG3426R050 device to the data sheet and set to Production Data.....	1
• Removed Switching Performance at >100V/ns graph.....	1
• Updated text and added table in the <i>Description</i> section. Removed <i>Device Comparison</i> section that was located after the <i>Table of Contents</i> section. Added table contains the information that was in the removed <i>Device Comparison</i> table.....	1
• Updated OC limit curve in Drain Current vs Drain-Source Voltage graph in <i>Typical Characteristics</i> section...	10
• Moved <i>Safe Operation Area (SOA)</i> section out of the <i>Feature Description</i> section.....	15
• Updated title and added sentence after figure in the <i>Repetitive SOA</i> section.....	15
• Updated text in the <i>Overview</i> section.....	16
• Updated text in <i>Direct-Drive GaN Architecture</i> section.....	19
• Added sentence clarifying application usage in <i>Drain-Source Voltage Capability</i> section.....	20
• Updated text in the <i>Internal Buck-Boost DC-DC Converter</i> section.....	21
• Updated text in the <i>VDD Bias Supply</i> section.....	22
• Updated title and text in the <i>Fault Protection</i> section.....	22
• Updated text and Figure 7-5 in the <i>Overcurrent Protection and Short-Circuit Protection</i> section.....	22
• Updated title in the <i>Overtemperature Shutdown Protection</i> section.....	24
• Added the <i>High-Impedance RDRV Pin Protection</i> section.....	25
• Updated text and table, and added table in the <i>Fault Reporting</i> section.....	25
• Converted text to a note in the <i>Drive-Strength Adjustment</i> section.....	25
• Updated text in the <i>Temperature-Sensing Output</i> section.....	27
• Updated text in the <i>Overtemperature-Shutdown Ideal-Diode Mode</i> section.....	27
• Replaced figure with two new figures in <i>Typical Application</i> section.....	34
• Removed the <i>Startup and Slew Rate with Bootstrap High-Side Supply</i> section.....	36
• Updated text in the <i>Signal Level-Shifting</i> section.....	36
• Updated text in the <i>Using an Isolated Power Supply</i> section.....	38
• Updated text in the <i>Using a Bootstrap Diode</i> section.....	38
• Added figure in the <i>Layout Guidelines</i> section.....	39

The datasheet number will be changing.

Device Family	Change From:	Change To:
LMG342xR030	SNOSDA7D	SNOSDA7E
LMG342xR050	SNOSDA8B	SNOSDA8C

These changes may be reviewed at the datasheet links provided.

<http://www.ti.com/product/LMG3422R030>

<http://www.ti.com/product/LMG3422R050>

Reason for Change:			
To accurately reflect device characteristics.			
Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):			
No anticipated impact. This is a specification change announcement only. There are no changes to the actual device			
Changes to product identification resulting from this PCN:			
None.			
Product Affected:			
LMG3422R030RQZR	LMG3422R030RQZT	LMG3422R050RQZR	LMG3422R050RQZT

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.