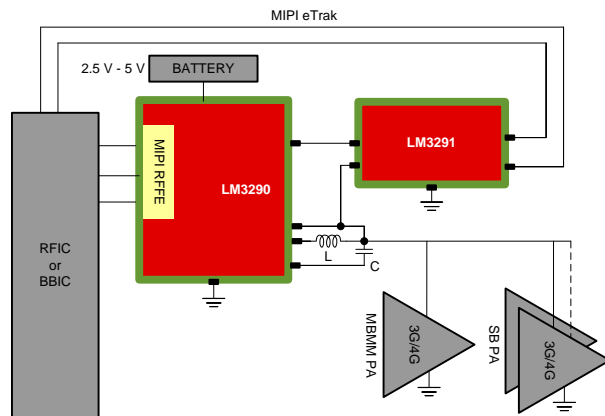


LM3290 产品简介

1 特性

- **V_{OUT_RANGE}**
 - V_{OUT_ET} = 0.6V 至 4.5V
 - V_{OUT_APT} = 0.4V 至 3.81V (或 V_{IN} - 200mV)
- 适用于包络跟踪 (ET) 运行的直流升压:
 - 升压输入电压范围: 2.5V 至 5V
 - 支持内部同步整流的高效率 (典型值 90%)
 - 具有低电阻 (典型值 150mΩ) 的升压旁路功能
 - 2.7MHz PWM 开关频率
- 适用于平均功率跟踪 (APT) 和 ET 运行的降压 DC-DC:
 - 高工作频率, 适用于小型外部传感器和电容器
 - V_{OUT_RANGE} = 0.4V 至 3.81V (或 V_{IN} - 200mV)
 - 支持内部同步整流的高效率 (典型值 95%)
 - 低功耗脉冲频率 (PFM) 模式
- **LM3291 控制:**
 - LM3291 在 ET 模式下自动控制
- **RFFE 控制接口:**
 - 1.8V MIPI® RFFE 1.1 兼容数字控制接口
 - 26MHz 写入能力
 - 13MHz 读取能力



2 说明

LM3290 具有配套集成电路 (IC) LM3291, 是一款具有集成 DC-DC 升压转换器的射频包络电源调制器 (EM), 集成的 DC-DC 升压转换器针对包络跟踪 (ET) 射频功率放大器 (PA) 进行了优化。此器件可独立于输入电池电压 (电池电压低至 2.5V) 实现最大发送输出功率, 并且通过 MIPI® RFFE 1.1 进行控制。

LM3290 可在以下两种活动模式下运行:

活动模式 1: 对于低 TX 输出功率, LM3290 可运行在平均功率跟踪 (APT) 模式下, 从而为 PA 提供一个静态但可编程的输出电压。轻负载, 并且处于 APT 模式中时, LM3290 自动进入脉冲频率模式 (PFM) 运行并且以减少的开关频率运行。在 PFM 模式下, 静态电流减少, 这延长了电池使用寿命。

活动模式 2: 在 ET 模式下, LM3290 与 LM3291 能够有效地为 PA 提供动态高带宽电源电压, 从而以最大程度提高 EM + PA 总效率。包络调制器通过一个差分模拟输入来跟踪由 RFIC 传送到 LM3291 的包络基准输入信号。此输出是一个传送到 PA 的单端电源信号。

LM3290 和 LM3291 支持 3G, 以及信号带宽高达 20MHz 的 LTE 运行。

LM3290 通过直接控制信号来控制 LM3291 配套 IC, 而无需系统额外进行控制。关断、待机和空闲模式将关闭 EM 并降低电流消耗。

欲获得完整数据表、样品或评估模块 (EVM) 硬件和软件, 请发送电子邮件至 ET@list.ti.com 与 TI 代表联系。

器件信息 (1)

部件号	封装	封装尺寸 (标称值)
LM3290	DSBGA (30)	2.432mm x 2.808mm

(1) 如需了解所有可用封装, 请见数据表末尾的可订购产品附录。



3 修订历史记录

Changes from Original (August 2013) to Revision A**Page**

-
- 已更改 更改了首页布局；添加了器件信息表；器件和文档支持页面 1
-

4 器件和文档支持

4.1 商标

MIPI is a registered trademark of Mobile Industry Processor Interface Alliance.
All other trademarks are the property of their respective owners.

4.2 静电放电警告



ESD 可能会损坏该集成电路。德州仪器 (TI) 建议通过适当的预防措施处理所有集成电路。如果不遵守正确的处理措施和安装程序，可能会损坏集成电路。

ESD 的损坏小至导致微小的性能降级，大至整个器件故障。精密的集成电路可能更容易受到损坏，这是因为非常细微的参数更改都可能会导致器件与其发布的规格不相符。

4.3 Glossary

[SLYZ022](#) — *TI Glossary*.

This glossary lists and explains terms, acronyms and definitions.

5 机械封装和可订购信息

以下页中包括机械封装和可订购信息。 这些信息是针对指定器件可提供的最新数据。 这些数据会在无通知且不对本文档进行修订的情况下发生改变。 欲获得该数据表的浏览器版本，请查阅左侧的导航栏。

PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead finish/ Ball material (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
LM3290TME/NOPB	NRND	DSBGA	YFQ	30	250	RoHS & Green	SNAGCU	Level-1-260C-UNLIM	-30 to 85	3290	

(1) 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.

OBSELETE: TI has discontinued the production of the device.

(2) **RoHS:** TI defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free".

RoHS Exempt: TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.

Green: TI defines "Green" to mean the content of Chlorine (Cl) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of <=1000ppm threshold. Antimony trioxide based flame retardants must also meet the <=1000ppm threshold requirement.

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

(4) 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.

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

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TAPE AND REEL INFORMATION

QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE


*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
LM3290TME/NOPB	DSBGA	YFQ	30	250	178.0	8.4	2.67	2.95	0.76	4.0	8.0	Q1

TAPE AND REEL BOX DIMENSIONS


*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
LM3290TME/NOPB	DSBGA	YFQ	30	250	208.0	191.0	35.0

重要声明和免责声明

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