

## 双通道同步电流模式脉宽调制器 (PWM)

查询样品: [UCC3810-DIE](#)

### 特性

- 单个振荡器将两个 **PWM** 同步
- 启动电源电流
- 运行电源电流
- 内部软启动
- 全周期故障重启动
- 电流感测信号的内部前沿消隐
- 从电流感测至输出, 典型值为 **75ns** 的响应
- **1.5%** 耐受电压基准

### 说明

UCC3810-DIE 是一款高速 BiCMOS 控制器, 针对离线和直流至直流 (dc-to-dc) 电源中的应用, 此控制器集成了两个已同步脉宽调制器。通过使用同样的振荡器, UCC3810-DIE 在两个 PWM 间提供出色的同步。如果需要的话, 振荡器的锯齿状波形可被用于斜率补偿。

通过使用一个翻转触发器在两个调制器之间进行轮换, UCC3810-DIE 确保了其中一个 PWM 不会受到另外一个 PWM 的控制, 干扰另外一个 PWM, 或者以其他方式影响另一个 PWM。这个翻转触发器也确保了每个 PWM 被限制为最大占空比的 50%, 从而为复位磁性元件保证了足够的断开时间。

### ORDERING INFORMATION<sup>(1)</sup>

| PRODUCT | PACKAGE DESIGNATOR | PACKAGE                                | ORDERABLE PART NUMBER | PACKAGE QUANTITY |
|---------|--------------------|----------------------------------------|-----------------------|------------------|
| UCC3810 | TD                 | Bare die in waffle pack <sup>(2)</sup> | UCC3810TD1            | 100              |
|         |                    |                                        | UCC3810TD2            | 10               |

- (1) For the most current package and ordering information, see the Package Option Addendum at the end of this document, or see the TI web site at [www.ti.com](http://www.ti.com).
- (2) Processing is per the Texas Instruments commercial production baseline and is in compliance with the Texas Instruments Quality Control System in effect at the time of manufacture. Electrical screening consists of DC parametric and functional testing at room temperature only. Unless otherwise specified by Texas Instruments AC performance and performance over temperature is not warranted. Visual Inspection is performed in accordance with MIL-STD-883 Test Method 2010 Condition B at 75X minimum.



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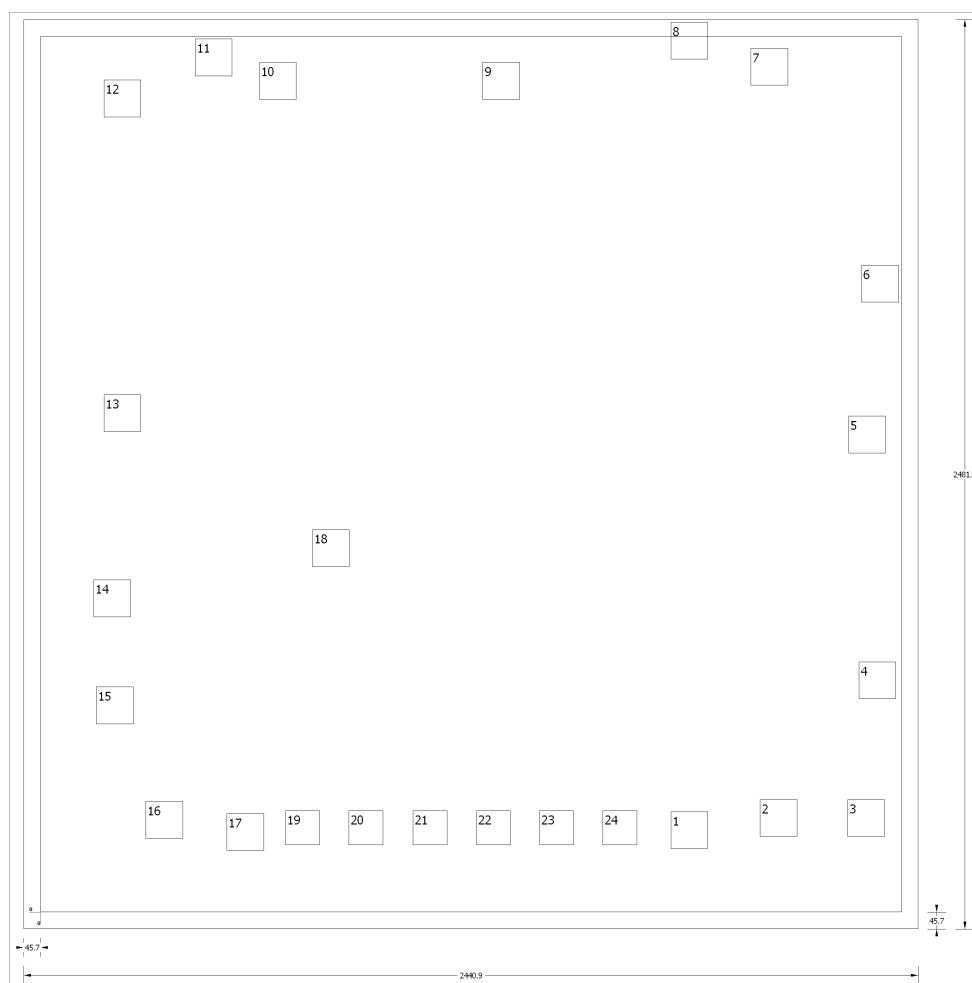


This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

### BARE DIE INFORMATION

| DIE THICKNESS | BACKSIDE FINISH        | BACKSIDE POTENTIAL | BOND PAD METALLIZATION COMPOSITION | BOND PAD THICKNESS |
|---------------|------------------------|--------------------|------------------------------------|--------------------|
| 10.5 mils.    | Silicon with backgrind | Floating           | ALCU(0.5%)                         | 1200 nm            |



**Table 1. Bond Pad Coordinates in Microns**

| DESCRIPTION | PAD NUMBER | X MIN   | Y MIN   | X MAX   | Y MAX   |
|-------------|------------|---------|---------|---------|---------|
| SYNC        | 1          | 1719.58 | 172.72  | 1821.18 | 274.32  |
| CT          | 2          | 1963.42 | 205.74  | 2065.02 | 307.34  |
| RT          | 3          | 2202.18 | 205.74  | 2303.78 | 307.34  |
| FB1         | 4          | 2232.66 | 581.66  | 2334.26 | 683.26  |
| COMP1       | 5          | 2204.72 | 1252.22 | 2306.32 | 1353.82 |
| CS1         | 6          | 2240.28 | 1663.7  | 2341.88 | 1765.3  |
| OUT1        | 7          | 1938.02 | 2255.52 | 2039.62 | 2357.12 |
| GND         | 8          | 1719.58 | 2326.64 | 1821.18 | 2428.24 |
| GND         | 9          | 1206.5  | 2217.42 | 1308.1  | 2319.02 |
| PWRGND      | 10         | 596.9   | 2217.42 | 698.5   | 2319.02 |
| OUT2        | 11         | 421.64  | 2280.92 | 523.24  | 2382.52 |
| CS2         | 12         | 172.72  | 2169.16 | 274.32  | 2270.76 |
| COMP2       | 13         | 172.72  | 1310.64 | 274.32  | 1412.24 |
| FB2         | 14         | 144.78  | 805.18  | 246.38  | 906.78  |
| ENABLE2     | 15         | 152.4   | 513.08  | 254     | 614.68  |
| REF         | 16         | 287.02  | 200.66  | 388.62  | 302.26  |
| VCC         | 17         | 508     | 167.64  | 609.6   | 269.24  |
| VCC         | 18         | 741.68  | 942.34  | 843.28  | 1043.94 |
| N/C         | 19         | 668.02  | 182.88  | 762     | 276.86  |
| N/C         | 20         | 840.74  | 182.88  | 934.72  | 276.86  |
| N/C         | 21         | 1016    | 182.88  | 1109.98 | 276.86  |
| N/C         | 22         | 1188.72 | 182.88  | 1282.7  | 276.86  |
| N/C         | 23         | 1361.44 | 182.88  | 1455.42 | 276.86  |
| N/C         | 24         | 1534.16 | 182.88  | 1628.14 | 276.86  |

## PACKAGING INFORMATION

| Orderable Device | Status<br>(1) | Package Type | Package<br>Drawing | Pins | Package<br>Qty | Eco Plan<br>(2) | Lead finish/<br>Ball material<br>(6) | MSL Peak Temp<br>(3) | Op Temp (°C) | Device Marking<br>(4/5) | Samples |
|------------------|---------------|--------------|--------------------|------|----------------|-----------------|--------------------------------------|----------------------|--------------|-------------------------|---------|
| UCC3810TD1       | LIFEBUY       |              |                    | 0    | 100            | RoHS & Green    | Call TI                              | N / A for Pkg Type   | 25 to 25     |                         |         |
| UCC3810TD2       | LIFEBUY       |              |                    | 0    | 10             | RoHS & Green    | Call TI                              | N / A for Pkg Type   | 25 to 25     |                         |         |

<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> **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.

<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.

<sup>(5)</sup> 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 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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