

# Spansion® Analog and Microcontroller Products



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The following document contains information on Spansion analog and microcontroller products. Although the document is marked with the name "Fujitsu", the company that originally developed the specification, Spansion will continue to offer these products to new and existing customers.

## **Continuity of Specifications**

There is no change to this document as a result of offering the device as a Spansion product. Any changes that have been made are the result of normal document improvements and are noted in the document revision summary, where supported. Future routine revisions will occur when appropriate, and changes will be noted in a revision summary.

## **Continuity of Ordering Part Numbers**

Spansion continues to support existing part numbers beginning with "MB". To order these products, please use only the Ordering Part Numbers listed in this document.

## **For More Information**

Please contact your local sales office for additional information about Spansion memory, analog, and microcontroller products and solutions.

# TRIAC Dimmable LED Driver IC for LED lighting

## MB39C601

MB39C601 is a flyback type switching regulator controller IC. The LED current is regulated by controlling the switching on-time or controlling the switching frequency, depending on the LED load.

It is most suitable for the general lighting applications, for example stocks of commercial and residential light bulbs and so on.

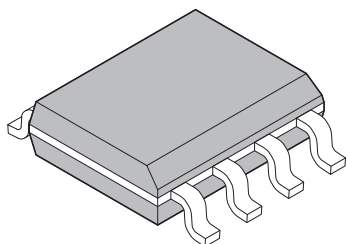
### ■ DESCRIPTION

- High power factor in Single Conversion
- High efficiency and low EMI by detecting transformer zero energy
- TRIAC Dimmable LED lighting
- Control of the current of Primary Winding without the external sense resistor
- Highly efficient protective function
- Under voltage lock out (UVLO)
- Over load protection
- Output over voltage protection
- Over temperature protection
- High efficiency at the light load, at Low Power Mode (LPM) Burst Operation in switching frequency control
- Frequency setting depend on the FB pin current : 30 kHz to 130 kHz
- Input voltage range VDD : 9V to 20V
- Input voltage range for LED lighting applications : AC110V<sub>RMS</sub>, AC230V<sub>RMS</sub>
- Package : SOP-8 (3.9mm × 5.05mm × 1.75mm [Max])

### ■ APPLICATIONS

- LED lighting
- TRIAC dimmable LED lighting etc

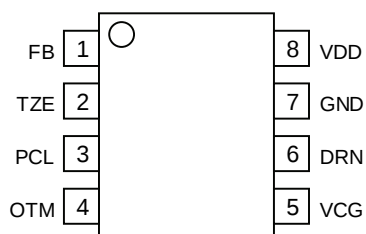
### ■ PACKAGE



8-pin plastic SOP-8  
(FPT-8P-M02)

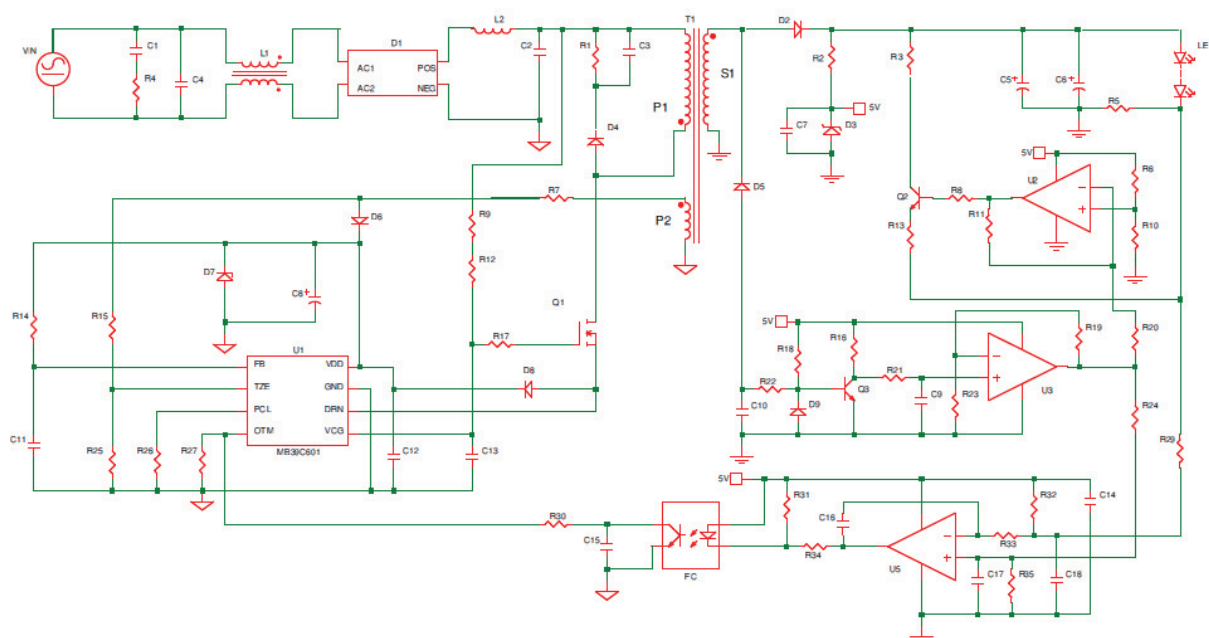
### PIN ASSIGNMENTS

TOP VIEW



| Pin No. | Pin Name | I/O | Description                                                      |
|---------|----------|-----|------------------------------------------------------------------|
| 1       | FB       | I   | Switching frequency setting pin.                                 |
| 2       | TZE      | I   | Transformer zero energy detecting pin.                           |
| 3       | PCL      | I   | Pin for controlling peak current of transformer primary winding. |
| 4       | OTM      | I   | On-time setting pin.                                             |
| 5       | VCG      | -   | External MOSFET gate bias pin.                                   |
| 6       | DRN      | O   | External MOSFET source connection pin.                           |
| 7       | GND      | -   | Ground pin.                                                      |
| 8       | VDD      | -   | Power supply pin.                                                |

### BLOCK DIAGRAM



### ORDERING INFORMATION

| Part number | Package                                                                      | Remarks |
|-------------|------------------------------------------------------------------------------|---------|
| MB39C601PNF | 8-pin plastic SOP-8<br>(FPT-8P-M02)<br>3.9mm×5.05mm×1.75mm[Max],1.27mm-pitch | -       |