



SANYO Semiconductors

DATA SHEET

LA5797M

Monolithic Linear IC

For Variable Capacitance Diodes

Charge Pump Step-up Power Supply

Overview

The LA5797M is a charge pump step-up power supply for Variable capacitance diodes.

Features

- By using charge pump, no coils are necessary.
- Time-base generator (140kHz) incorporated.
- Thermal shutdown circuit incorporated.

Specifications

Maximum Ratings at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-------------------|-----------------------------------|-------------|------------------|
| Input voltage | V_{IN} | | 30 | V |
| Allowable power dissipation | $P_d \text{ max}$ | Mounted on the specified board. * | 0.91 | W |
| Operating temperature | T_{opr} | | -25 to +90 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | | -40 to +150 | $^\circ\text{C}$ |

* Specified board: 114.3mm × 76.1mm × 1.6mm, glass epoxy board.

Recommended Operating Conditions at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|---------------------|----------|------------|-----------|------|
| Input voltage range | V_{IN} | | 7.5 to 28 | V |

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SANYO Semiconductor Co., Ltd.

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

LA5797M

Electrical Characteristics at $T_a = 25^\circ\text{C}$

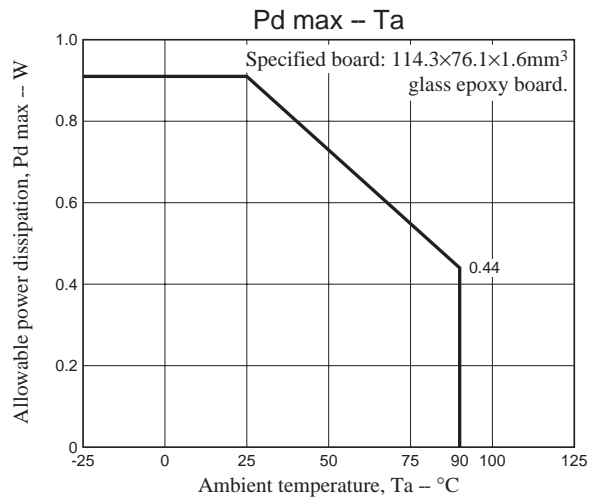
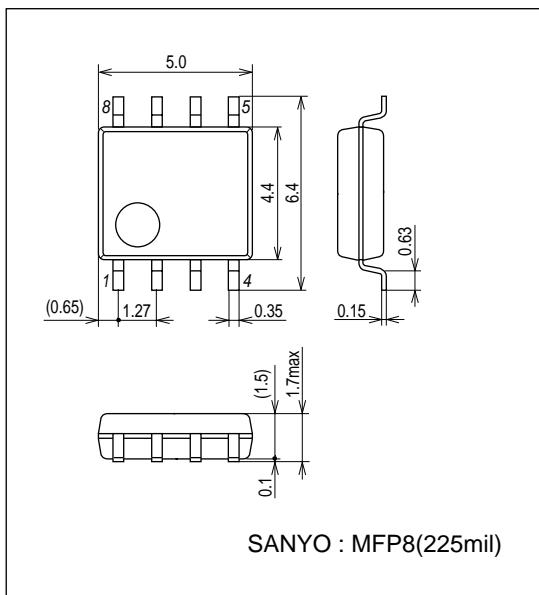
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|--------------------|--|---------|-------|-------|------------------|
| | | | min | typ | max | |
| Reference voltage | VFB | $V_{IN} = 15\text{V}$, $I_O = 5\text{mA}$ | 1.189 | 1.225 | 1.261 | V |
| Switching frequency | f | $V_{IN} = 7.5\text{V}$ to 28V | 112 | 140 | 168 | kHz |
| Thermal shutdown operating temperature | TSD | Designed target value. * | | 165 | | $^\circ\text{C}$ |
| Thermal shutdown Hysteresis width | ΔTSD | Designed target value. * | | 15 | | $^\circ\text{C}$ |

* Design target value : No measurement made.

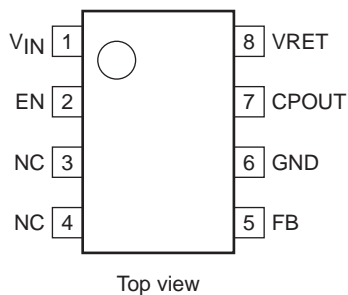
Package Dimensions

unit : mm (typ)

3032D

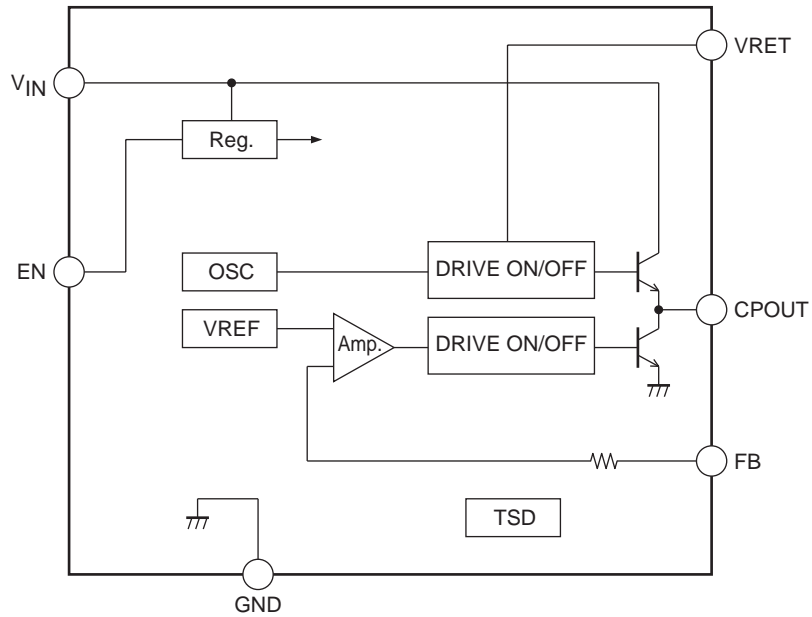


Pin Assignment



LA5797M

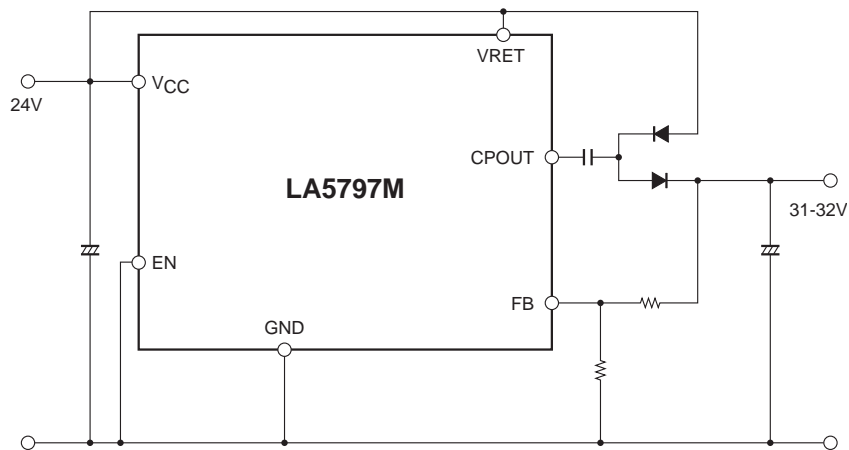
Block Diagram



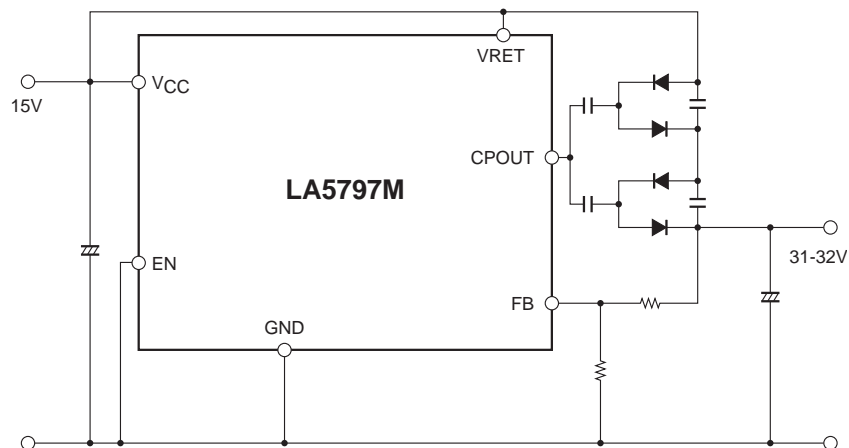
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Application Circuit Example

External circuit diagram ($V_{CC} = 24V$)



External circuit diagram ($V_{CC} = 15V$)



Note : The IC is made active when the EN pin is pulled down to GND. The charge pump operation is stopped when the EN pin is pulled up to V_{IN} .

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