

### DESCRIPTION

MT7817BD is a high precision LED constant current controller operating at critical conduction mode (CRM) with zero current switched-on and peak current switched-off. It's mainly targeted for non-isolated buck LED power systems and PWM/Analog dimmable application.

Critical conduction mode ensures that the MT7817BD turns on the internal switch when the inductor current reaches zero, reducing the switch-on switching losses, and achieving more than 93% efficiency.

With critical conduction mode, and the input compensation, MT7817BD outputs high accuracy LED current, and further achieves excellent line regulation and load regulation.

MT7817BD has wide working voltage range, which is suitable for full-range AC input or 12V ~ 500V DC input voltage. MT7817BD provides various protection features to improve the system reliability, including over current protection (OCP), short circuit protection (SCP), adjustable over voltage protection (OVP) and over temperature regulation (OTR), etc.

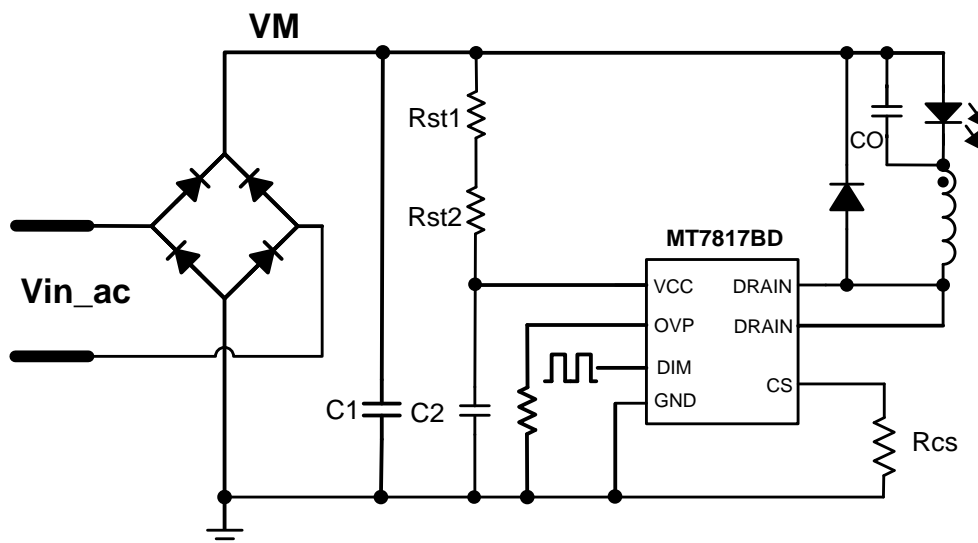
### FEATURES

- Internal 500V power MOSFET
- Critical Conduction Mode, insensitive to the inductance
- PWM/ Analog dimming function
- High efficiency (up to 93%)
- Highly accurate constant LED current
- Cycle-by-cycle current limiting
- LED short circuit protection
- Adjustable LED over voltage protection
- Leading edge blanking technique
- Under-voltage lockout (UVLO) protection
- Over temperature regulation (OTR)
- Available in DIP7 package

### APPLICATIONS

- LED tube, signal lamp, landscape lamp
- LED stage light, etc
- Intelligent LED lighting application

### Typical Application Circuit

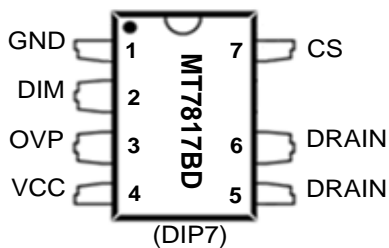


**ABSOLUTE MAXIMUM RATINGS**

VCC maximum sink current	5mA
DRAIN (internal HV power MOSFET drain voltage)	-0.3V ~ 500V
DIM (PWM/Analog dimming pin input voltage)	-0.3V ~ 6V
OVP (over voltage protection pin input voltage)	-0.3V ~ 6V
CS ( current sense pin input voltage)	-0.3V ~ 6V
P <sub>DMAX</sub> (maximum power dissipation)	1.2W
Storage Temperature range	-55°C ~ 150°C
Junction Temperature(T <sub>j</sub> )	150°C

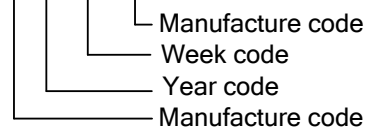
**RECOMMENDED OPERATING CONDITIONS**

Operating Temperature range	-40°C ~ 125°C
Output Current (176VAC~264VAC)	<370mA @ V <sub>OUT</sub> =72V <500mA @ V <sub>OUT</sub> =36V

**PIN CONFIGURATIONS**

**Chip Mark**

MT7817BD

XX Y WW XX


**PIN DESCRIPTION**

Name	Pin No.	Description
GND	1	Ground
DIM	2	Chip enable/ PWM dimming /analog dimming Internal has a 300K pull_up resistor, this pin can be floating
OVP	3	Adjustable over voltage protection pin
VCC	4	Power supply pin, internal clamped at 15V
DRAIN	5/6	Drain of internal high-voltage power MOSFET
CS	7	Current sense input, connect a sense resistor to ground