

Small size & high efficiency, worldwide input (80 VAC to 280 VAC),  
and constant current control with simple LED drive circuit !

### IPD for LED-lighting MIP551/MIP552

#### Overview

MIP551/MIP552 is the best device for LED-lighting.  
LED-lighting using MIP551/MIP552 has small size & high efficiency by simple design in worldwide input voltage (80 VAC to 280 VAC), and has dimmer control function by external signal.

#### Feature

- Worldwide input voltage, 80 VAC to 280 VAC
- Typical LED peak current  
MIP551 : 0.5 A  
MIP552 : 1.0 A
- \* Peak current can be adjusted in two-stage corresponding to the input voltage.
- Dimmer control function : EX-pin voltage range, 0 V to 3 V
- Function to set input voltage that can be driven :L-pin voltage range
- Over temperature protection for IPD (Auto-restart)

#### Applications

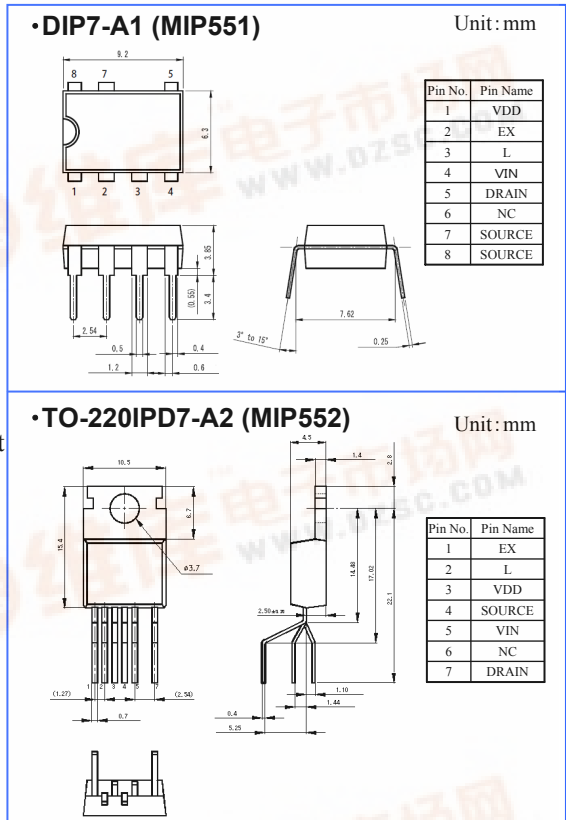
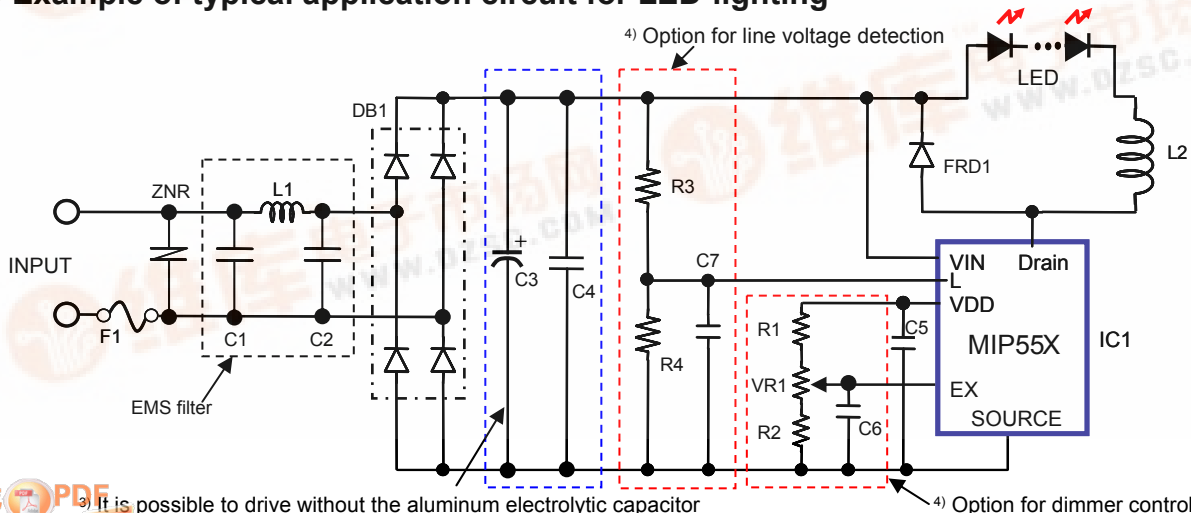
LED-lighting  
HB-LED drive circuit

#### Specifications

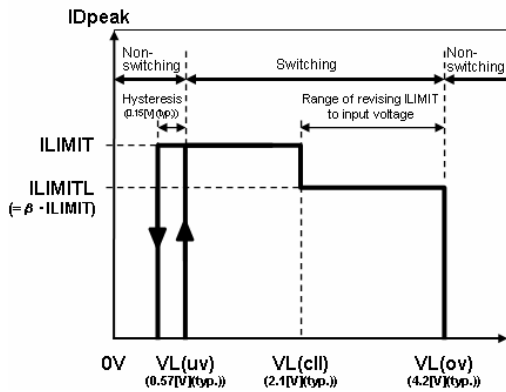
Item	Package	VDSS	fosc	IDpeak	RON	Maximum <sup>1)</sup> output power (Ta=25°C)
MIP5510MSSCF	DIP7-A1	≥700V	44 kHz (typ.)	0.5A (typ.)	12Ω(typ.)	10W (Io=0.35A, C3=47μF)
MIP5520MDSLJ	TO-220IPD7-A2			1.0A (typ.)	6Ω(typ.)	30W <sup>2)</sup> with heat sink (Io=0.70A, C3=220μF)

- The maximum output power is different depending on parts and ambient conditions, so the following value is a reference value.
- When the input power is more than 25W, it is necessary to connect PFC circuit in input side.
- It is possible to drive without the smoothing aluminum electrolytic capacitor when the input voltage detecting function is used.
- When the line voltage detecting function or LED dimmer control function is not used, the circuit can be simplified.

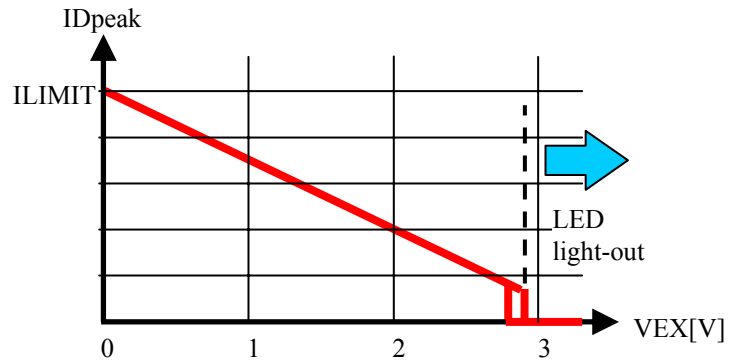
#### Example of typical application circuit for LED-lighting



## ■ Explanation of function terminal

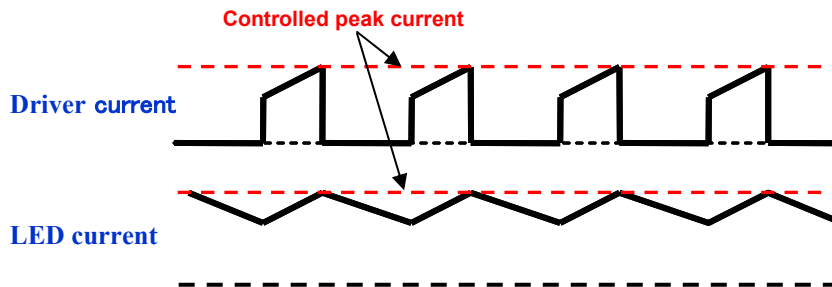


L pin voltage vs IDpeak

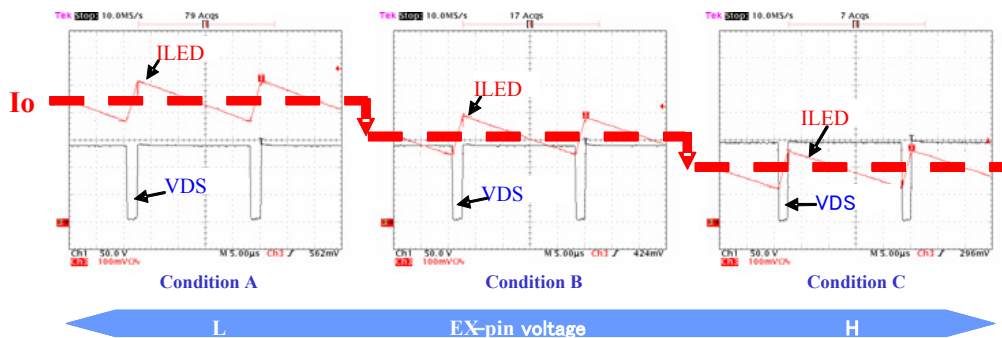


EX pin voltage vs IDpeak

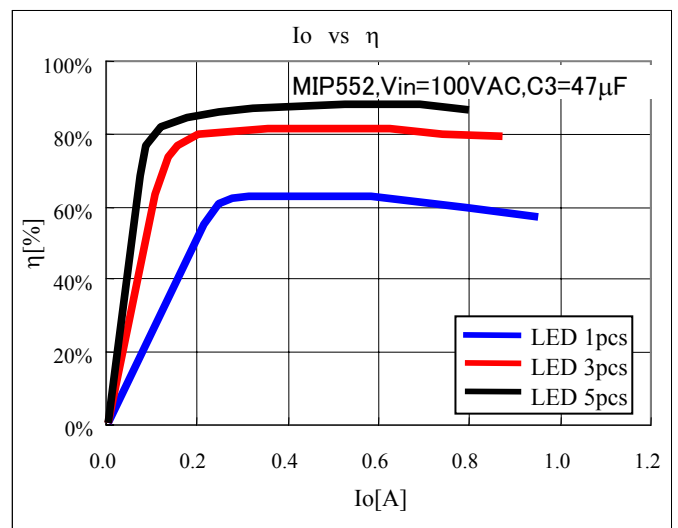
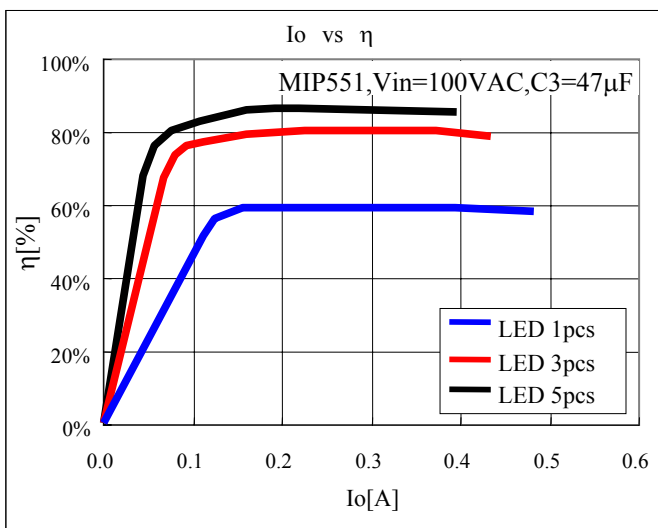
## ■ Waveform image



DRAIN current waveform and LED current waveform



## ■ Reference data DRAIN peak current and LED average current vs EX pin voltage



CF Output characteristic

MIP5520MDSLJ Output characteristic