



## Product Brief

# CDM10VD

## 0-10 V dimming interface IC with dim-to-off

The compact and highly integrated CDM10VD allows designers to replace many of the discrete components used in conventional 0-10 V dim-to-off dimming schemes with a single device, leading to reduced BOM and PCB savings.

### Analog 0-10 V to digital PWM converter for dim-to-off

Infineon's CDM10VD is the industry's first single-chip lighting interface IC dedicated for lighting applications capable of transforming an analog 0-10 V input into a PWM or dimming input signal required by a lighting controller IC. The signal is delivered in the form of an optocoupler-ready 0 to 100 percent PWM output.

Four different devices with either 5 or 10 percent minimum-duty cycle and 1 or 5 mA output current are available. All devices have a predefined PWM output frequency of 1 kHz, and a fixed dimmer/resistor bias current of 120  $\mu$ A. Dim-to-off functionality allows the CDM10VD to be used across a variety of different commercial and industrial LED lighting applications.

### Key features

- > Small SOT-23 package
- > Active dimming (0-10 V)
- > Passive dimming (resistor)
- > Variable frequency PWM input mode
- > Supply voltage 6-25 V
- > Fixed PWM frequency 1000 Hz
- > Fixed R-DIM bias current 120  $\mu$ A
- > Dim-to-off
- > Devices with 5 or 10 percent duty cycle
- > Embedded digital signal processing maintains minimum variations from device to device

### Highly integrated devices reduce overall BOM cost



Supplied in an ultra-miniature 6-pin SOT package, the CDM10VD is ideally suited for use on small PCBs with high component densities. Beside the optocoupler, no additional components are needed to realize the analog to PWM conversion.

### Supporting a wide range of supply power



A supply voltage of 6 V to 25 V ensures compatibility with all common LED lighting applications including luminaires, troffers, downlights, sconces, office lighting and signage.

### Key benefits

- > Single-chip solution leads to reduced BOM and PCB savings
- > Replaces up to 30 discrete devices
- > Attractive pricing and faster time-to-market
- > Granular portfolio for highest flexibility and easy design-in
- > Transparent PWM mode to transfer PWM signals from secondary to primary side

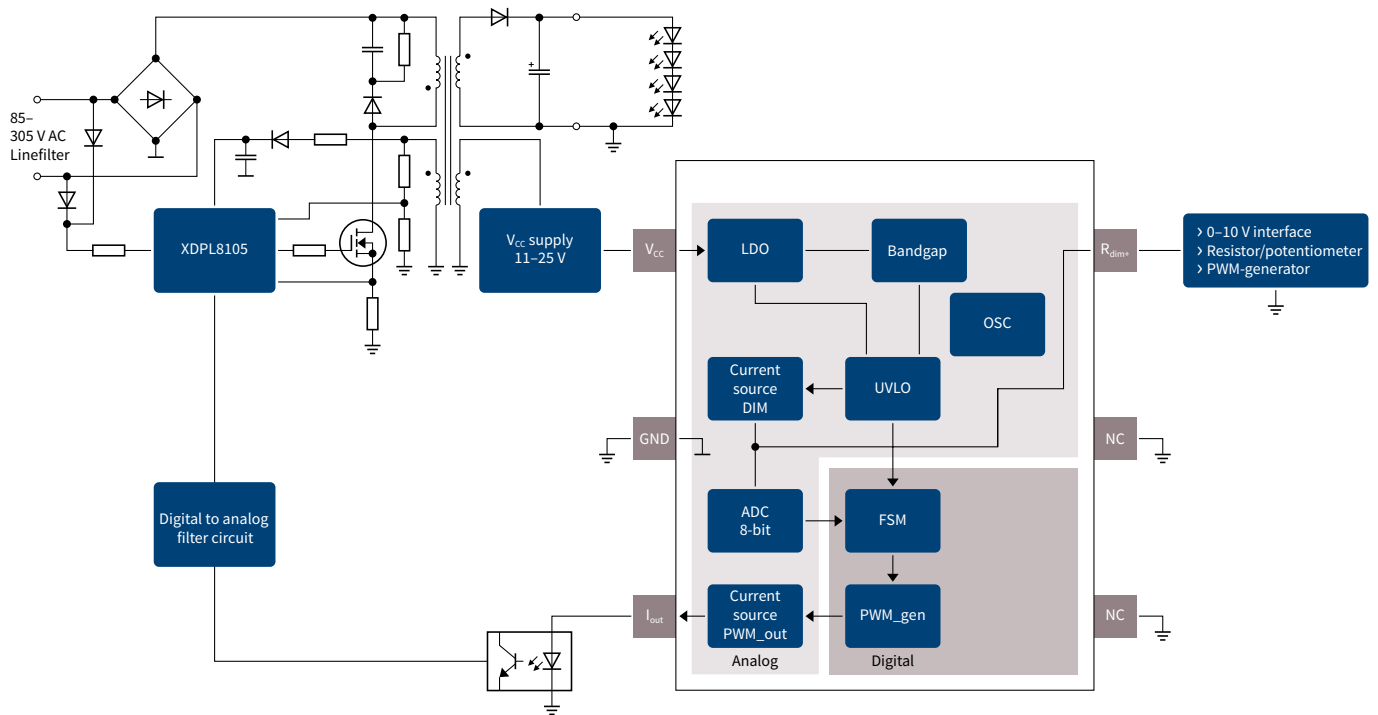
### Applications

- > 0-10 V dimming
- > Isolated signal transfer

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Typical application schematic using Infineon digital flyback controller XDPL8105



### Product portfolio

Product	$I_{OUT}$ [mA]	Min. duty cycle [%]	PWM output frequency [kHz]	Dimmer/ Resistor bias current [ $\mu$ A]	Dim-to-off	OPN	SP number
CDM10VD	5	5	1	120	Enabled	CDM10VDXTSA1	SP001619792
CDM10VD-2	5	10	1	120	Enabled	CDM10VD2XTSA1	SP001619794
CDM10VD-3	1	5	1	120	Enabled	CDM10VD3XTSA1	SP001619796
CDM10VD-4	1	10	1	120	Enabled	CDM10VD4XTSA1	SP001630006

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