

Product Document

TMD2621

Proximity Sensor Module for Behind OLED Applications

General Description

The TMD2621 features an advanced proximity measurement. The device integrates an IRVCSEL and an advanced VCSEL driver within an optimized 4.65mm x 1.86mm x 1.3mm OLGA package. The proximity function synchronizes IR emission and detection to sense nearby objects. The architecture of the engine features self-maximizing dynamic range, ambient light subtraction, advanced crosstalk cancellation, and interrupt-driven I²C communication. Sensitivity, power consumption, and noise can be optimized with adjustable IR VCSEL timing and power. The proximity engine recognizes detect/release events and produces a configurable interrupt whenever the proximity result crosses upper or lower threshold settings.

Key Benefits & Features

The benefits and features of TMD2621 are listed below:

Figure 1:
Added Value of Using TMD2621

Benefits	Features
<ul style="list-style-type: none"> Proximity detection behind OLED displays 	<ul style="list-style-type: none"> Integrated factory calibrated 940nm IR VCSEL Display synchronization with highly programmable Proximity Start Delay (PSD) Crosstalk and ambient light cancellation Optimized sensitivity and noise level Wide configuration range
<ul style="list-style-type: none"> Low power consumption 	<ul style="list-style-type: none"> 1.8V power supply with 1.8V I²C bus Configurable sleep mode Interrupt driven device
<ul style="list-style-type: none"> Integrated status checking for all functions 	<ul style="list-style-type: none"> Proximity saturation flag VSYNC status check

Applications

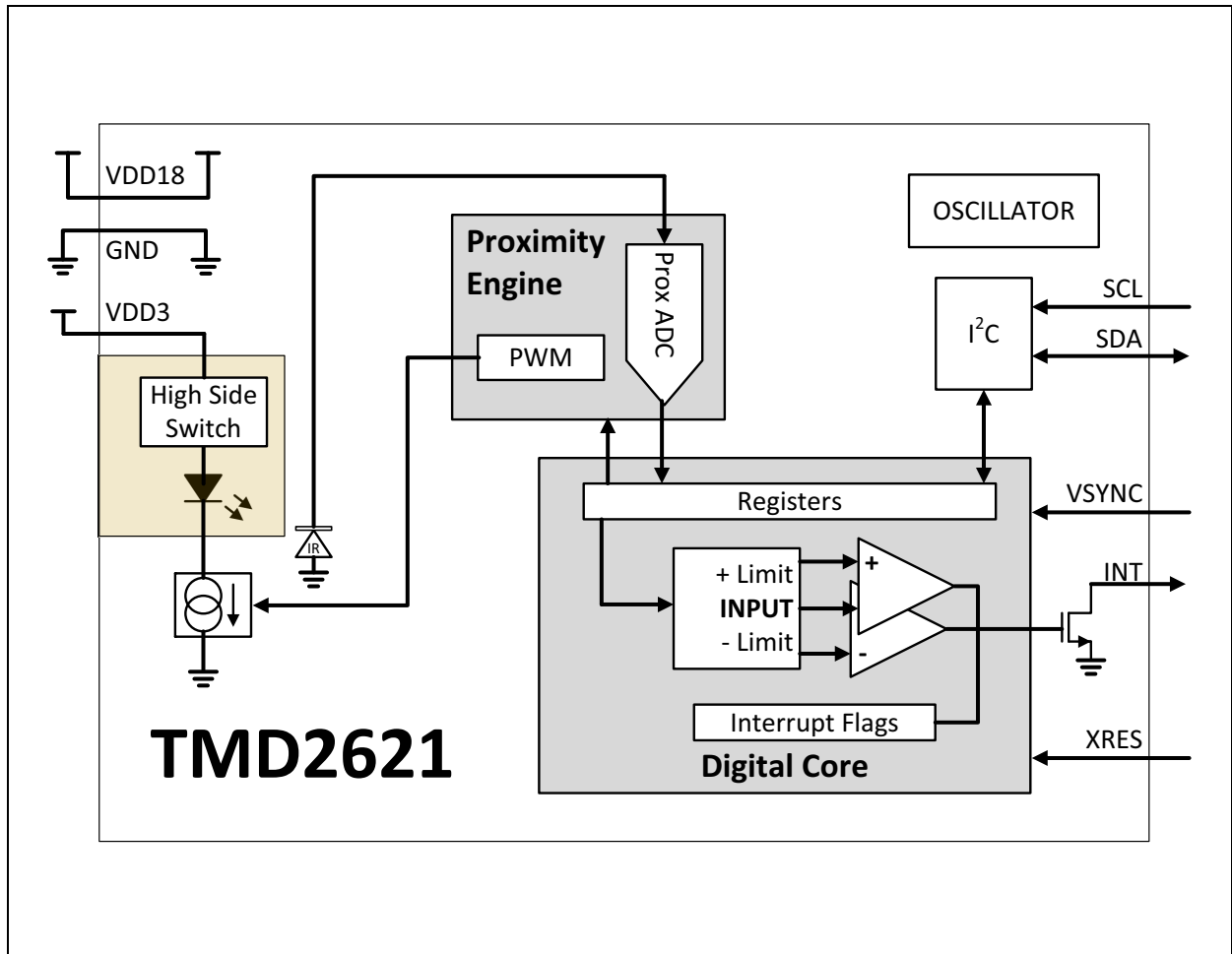
The TMD2621 applications include:

- Proximity detection for mobile phones

Block Diagram

The functional blocks of this device are shown below:

Figure 2:
Functional Blocks of TMD2621



Pin Assignments

Figure 3:
Pin Diagram

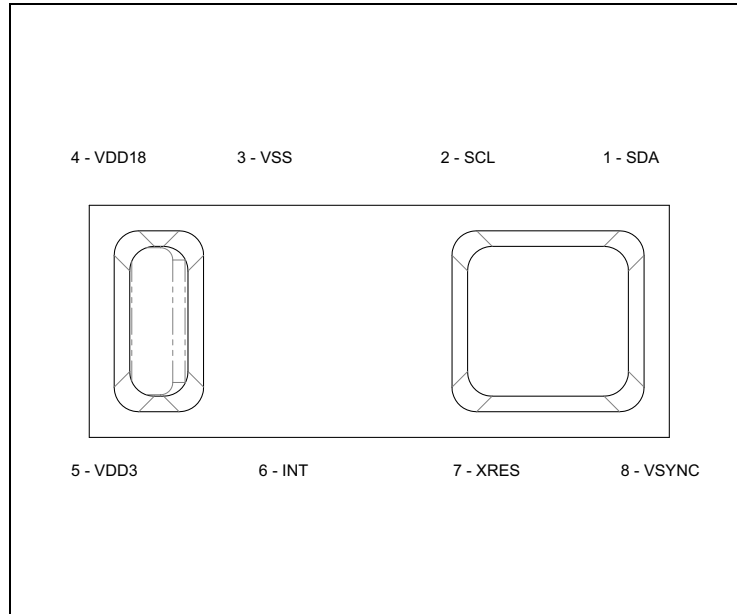


Figure 4:
Pin Description of TMD2621

PIN Number	Pin Name	Description	If Not Use
1	SDA	I ² C serial data I/O terminal	Mandatory
2	SCL	I ² C serial clock input terminal	Mandatory
3	VSS	Ground. All voltages are referenced to VSS	Mandatory
4	VDD18	Supply voltage for sensor (1.8V)	Mandatory
5	VDD3	Supply voltage for IR emitter (3.0/3.3V)	Connect to VDD18
6	INT	Interrupt. Open drain output (active low)	Connect to GND
7	XRES	Hardware reset input. Need to enable in the register.	Connect to GND
8	VSYNC	VSYNC input	Connect to GND

Ordering & Contact Information

Figure 5:
Ordering Information

Ordering Code	I ² C Bus	I ² C Address	Delivery Form	Delivery Quantity
TMD26213	1.8V	0x39	Tape & Reel (13")	10000 pcs/reel
TMD26213M	1.8V	0x39	Tape & Reel (7")	2500pcs/reel

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Revision Information

This short datasheet is derived from v3-00 of full datasheet.