

Specification

PRODUCT NAME: Light Sensor Module

MODEL NAME: LTS600

DOCUMENT NO.:	EFFECTIVE DATE:	VERSION: 0.1	PAGE:
<i>Ver.</i>	<i>Description</i>	<i>Effective date</i>	
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<i>APPROVED</i>		<i>CHECKED</i>			<i>PREPARED</i>	
	<input type="checkbox"/> <i>VP</i>	<input type="checkbox"/> <i>EE</i>	<input type="checkbox"/> <i>ME</i>	<input type="checkbox"/> <i>EMI & SAFETY</i>	<input type="checkbox"/> <i>Layout</i>	

LTS600---Light Sensor Module

General Description:

LTS600 is a 16bit low power .high sensitivity CMOS ambient light sensor via a I2C command and interface

Feature:

- Detecting range from 0.005 Lux to 167000 Lux
- 0.005 Lux/per bit
- Low Power consumption, 2uA.
- Wide working range from -40 to 80C
- Dynamic detection resolution
- Fluorescent Light immunity
- Operation Range 2.6V to 3.6V
- Ambient light sensor strength detection range over 100K Lux
- Small PCB size

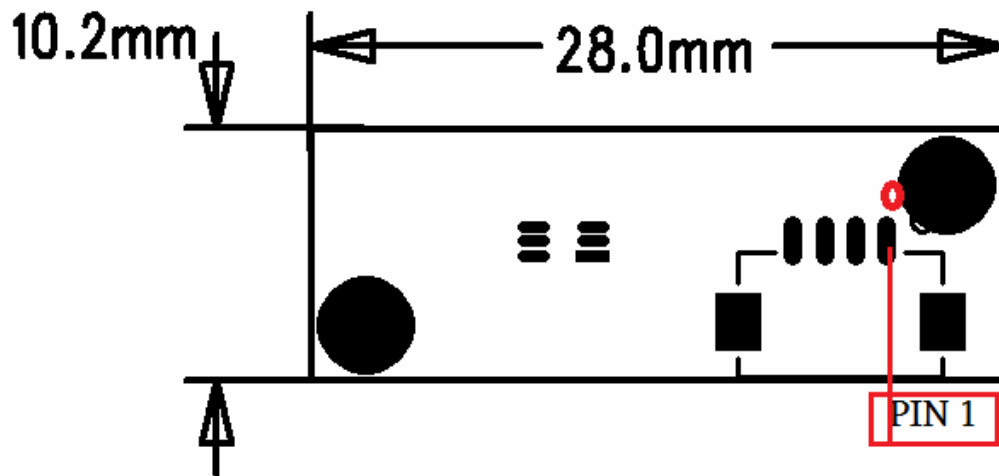
Application:

- Out Doors Application
- LED relative Appliances

LTS600---Light Sensor Module

GENERAL SPECIFICATION:

Item	Description
Length	28.0mm
Width	10.2mm
Input Voltage	2.6V to 3.6V
Operation Lux	0.005 to 167000 LUX
Interface	I2C , Address=0x20
MTBF	10000K hours
Life Cycle	
Operation temperature	-40C to 80 C

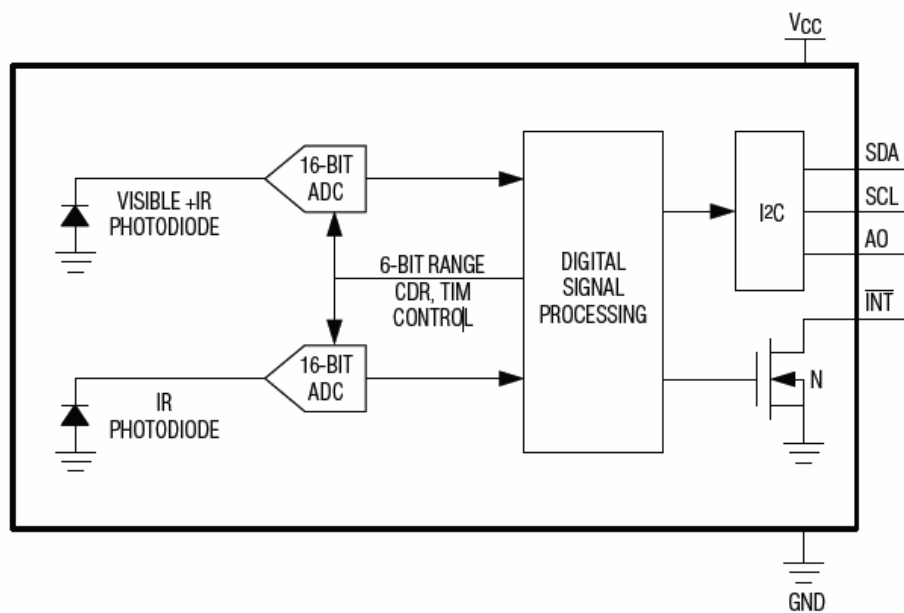


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Connector : Molex 4pin (pitch 1.25mm)

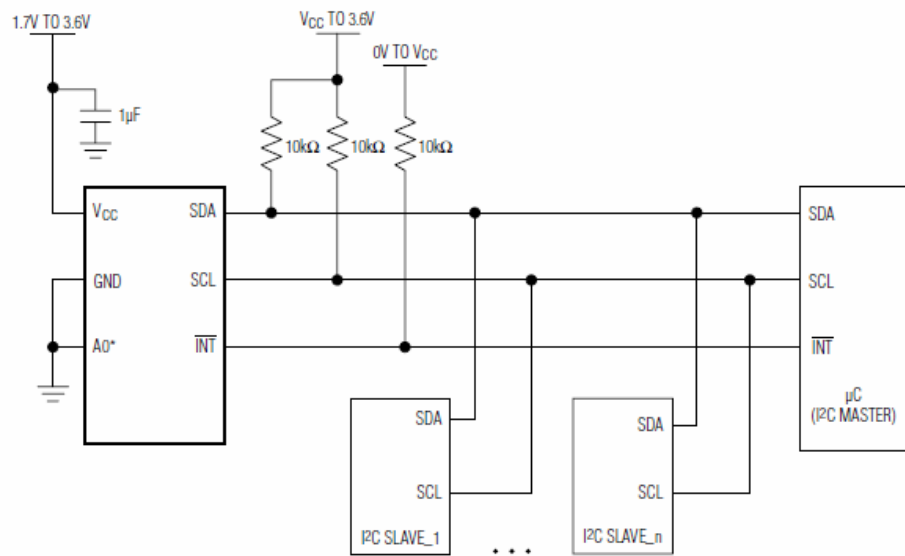
Pin Number	Pin definition	Pin Description
1	VDD	VCC 2.5 to 3.6V
2	SDA	I2C Data Pin
3	SCL	I2C Clock pin
4	GND	GND

BLOCK DIAGRAM:



LTS600---Light Sensor Module

Application Diagram:



LTS600---Light Sensor Module

ELECTRICAL CHARACTERISTICS

(V_{CC} = 1.8V, T_{MIN} to T_{MAX} = -40°C to +85°C, unless otherwise noted.) (Note 1)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
OPTICAL CHARACTERISTICS						
Maximum Lux Sensitivity		Fluorescent light		0.045		Lux/LSB
Saturation Ambient Lux Level		Sunlight		188,000		Lux
Total Error	TE	Green LED 538nm response, T _A = +25°C (Note 2)			15	%
Light Source Matching		Fluorescent/incandescent light		10		%
Infrared Transmittance at 940nm	IRR	T _A = +25°C (Note 3)		0	0.5	%
Ultraviolet Transmittance at 363nm	UVR	T _A = +25°C (Note 3)		1.2		%
Dark Level Count	oLUX	0 lux, T _A = +25°C, 800ms range		0	0.045	Lux
Maximum Signal Integration Time		Has 50/60Hz rejection		800		ms
Minimum Signal Integration Time		Automatic mode, has 50/60Hz rejection		100		ms
		Manual mode only		6.25		
ADC Conversion Time	ACT	100ms range, T _A = +25°C	99.6	100	100.4	ms
		100ms range	97	103	107	
POWER SUPPLY						
Power-Supply Voltage	V _{CC}	Guaranteed by TE test	1.7		3.6	V
Power-Supply Current	I _{CC}	T _A = +25°C, 90 lux, I ² C inputs inactive		0.65	1.2	μA
		T _A = -40°C to +85°C			1.6	
DIGITAL I/O CHARACTERISTICS						
Output Low Voltage SDA, $\overline{\text{INT}}$	V _{OL}	I _{SINK} = 6mA		0.06	0.4	V
$\overline{\text{INT}}$ Leakage Current		T _A = +25°C		0.01	20	nA
SCL, SDA, A0 Input Current	I _{IH} , I _{IL}	T _A = +25°C		0.01	20	nA
I ² C Input Low Voltage	V _{IL_I2C}	SDA, SCL			0.3 x V _{CC}	V
I ² C Input High Voltage	V _{IH_I2C}	SDA, SCL	0.7 x V _{CC}			V
Address Input Low Voltage	V _{IL_A0}	A0			0.3	V
Address Input High Voltage	V _{IH_A0}	A0	V _{CC} - 0.3V			V
Input Capacitance				3		pF

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