

GP2AP054A00F

Application

Smartphone / Tablet/ Touchless switch

Property

Proximity detection / Gesture recognition / Compact package (4.0 × 2.1 × 1.25t mm).

Introduction

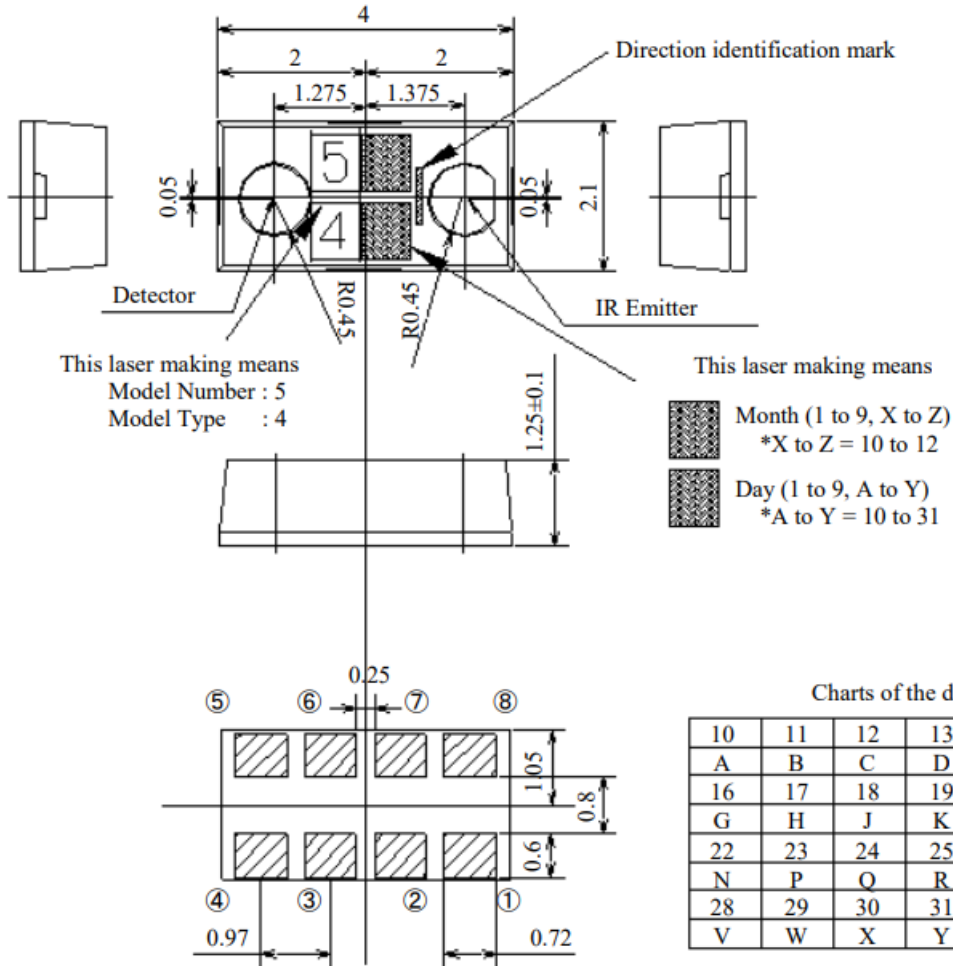
GP2AP054A00F is Gesture and Proximity Sensor with Ambient Light Sensor. Ambient light sensor detects the brightness. Proximity sensor detects presence of object. Gesture sensor detects the movement of a hand without touching the screen. Three sensors integrated into 1 chip. Small size (4.0 × 2.1 × 1.25t mm) device is available by the technology.



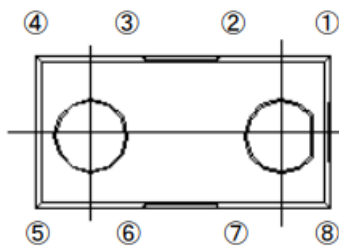
Specifications (T=25°C)

Items	Symbols	
Supply Voltage	VCC	2.2-5.5V
LED Voltage	VLED	2.2-5.5V
I2C Voltage	VI2C	1.7*5.5
Distance Range	L	80-120mm
Operating Temperature	To	-30°C ~ +85°C
Storage Temperature	Ts	-40°C ~ +85°C
SCL, SDA input low level	VIL	-0.3-0.54V
SCL, SDA input high level	VIH	1.26-5.7V
Current consumption (GS)	ICC_GS	320 μA
Current consumption (ALS)	ICC_ALS	100 μA
Current consumption(Power Down)	ICC-S	<8 μA
SDA output low level voltage	VOL_SDA	0.4V
INT output low level voltage	VOL_INT	0.4V
Typical (amount of) distance for GS operation	Dz_GS	100mm

Outline Dimensions



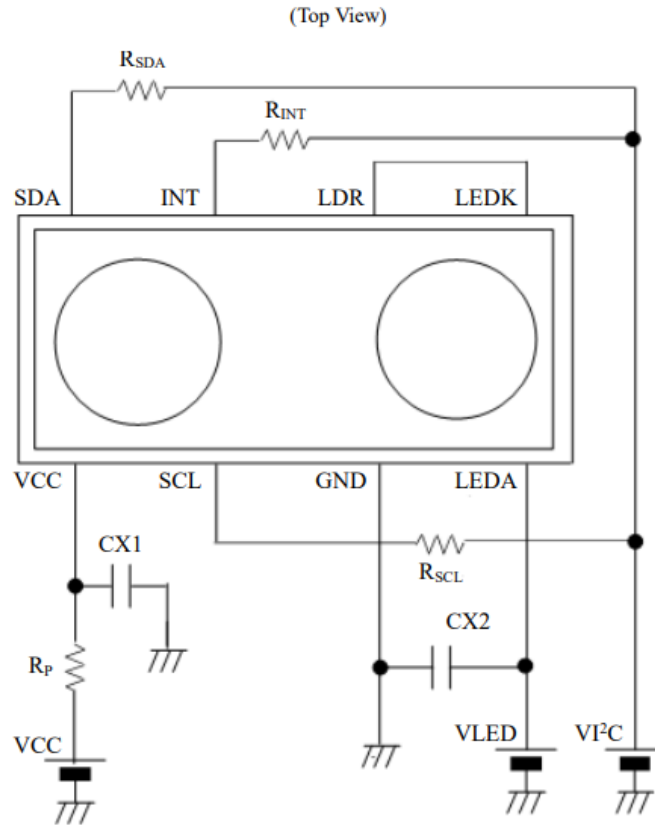
Pin assignment (Top View)



- 1) area : Au plating
- 2) Unspecified tolerance shall be ±0.2.

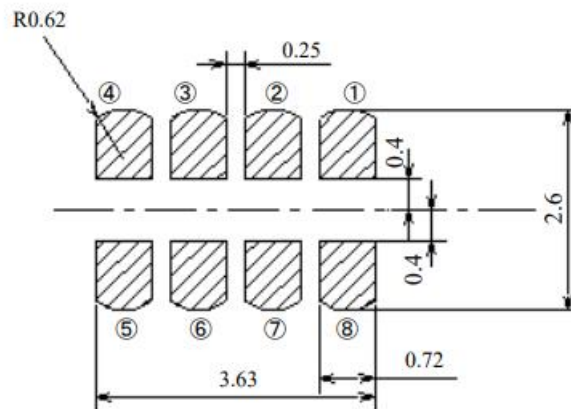
Pin	Pin name	Symbol
①	LED Cathode	LEDK
②	LED driver	LDR
③	Interrupt	INT
④	I ² C DATA BUS	SDA
⑤	Supply Voltage	VCC
⑥	I ² C Clock	SCL
⑦	Ground	GND
⑧	LED Anode	LEDA


Connection Circuit



Components	Recommended values
CX1	1 μ F
CX2	2.2 μ F
R _P	22 Ω
R _{SDA}	10k Ω
R _{SCL}	10k Ω
R _{INT}	100k Ω

)Recommendable size of solder creamed paste



 : Soldering paste area

1. Dimensions in parenthesis are shown for reference.
2. Unit : mm