

GP2Z0002AU

Optical Pointing Device

Easy Operation and High Reliability Thanks to Non-contact Optical System

General Description

Sharp's **GP2Z0002AU** is a compact and thin type optical pointing device, eliminating the complicated operation, mechanical wear thanks to newly developed non-contact system. It is suitable for I/O devices in the notebook type PCs and personal information tools.

Features

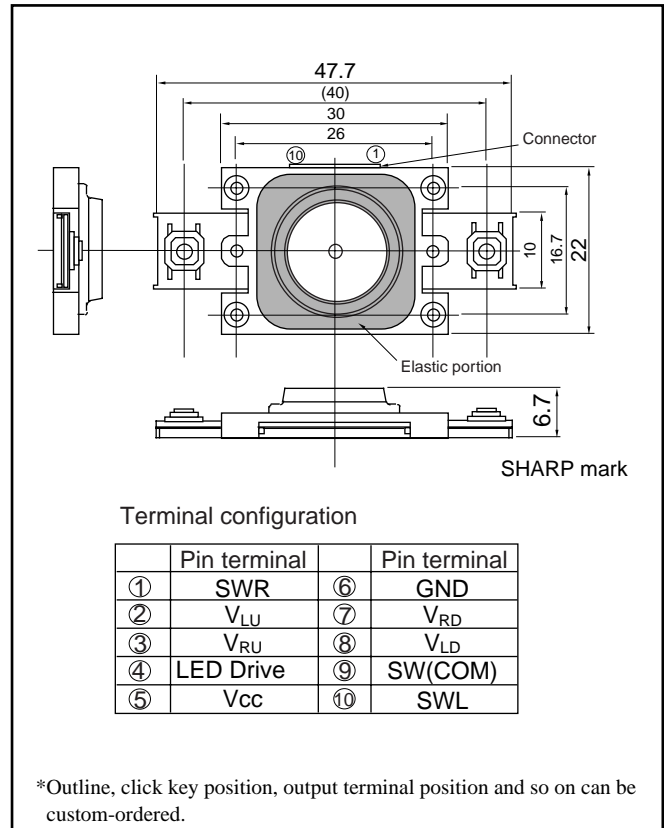
- (1) Easy operation thanks to adoption of optical system and slide system
- (2) High reliability due to elimination of the contact wear with the optical system
- (3) Compact and thin type
 - * The microcomputer for control is also available as custom-ordered.
 - (It is available as a kit with the pointing device.)

Applications

- (1) Notebook type PCs
- (2) Personal information tools

Outline Dimensions

(Unit: mm)



Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit	Conditions
Supply voltage	V _{CC}	-0.3 to 7.0	V	T _a =25°C
Output voltage	V _{OUT}	-0.3 to V _{CC} +0.3	V	T _a =25°C
Operating temperature	T _{opr}	0 to +60	°C	-
Storage temperature	T _{stg}	-10 to 70	°C	-

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Specifications

(Ta=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply voltage	V _{CC}	Ta=0 to 60°C	3.7	4.0	4.3	V
Output voltage	V _{LU} , V _{LD} , V _{RU} , V _{RD}	V _{CC} =4.0V, R _L =47Ω *2	0.7	1.35	2.0	V
*1 Increase rate of subtraction output	A/B	V _{CC} =4.0V, R _L =47Ω *2 (X,Y)=(0.3, 0), (0, 0.3) [mm]	0.15	0.3	0.45	-
*1 Increase rate of subtraction output	A/B	V _{CC} =4.0V, R _L =47Ω (X,Y)=(-0.3, 0), (0, -0.3) [mm]	-0.15	-0.3	-0.45	-
Dissipation current	I _{CC}	V _{CC} =4V, R _L =47Ω *2 *3	-	38	46	mA

*1 Subtraction output A

X-axis movement : $A_x = (V_{LU} + V_{LD}) - (V_{RU} + V_{RD})$

Y-axis movement : $A_y = (V_{LU} + V_{RD}) - (V_{RU} + V_{LU})$

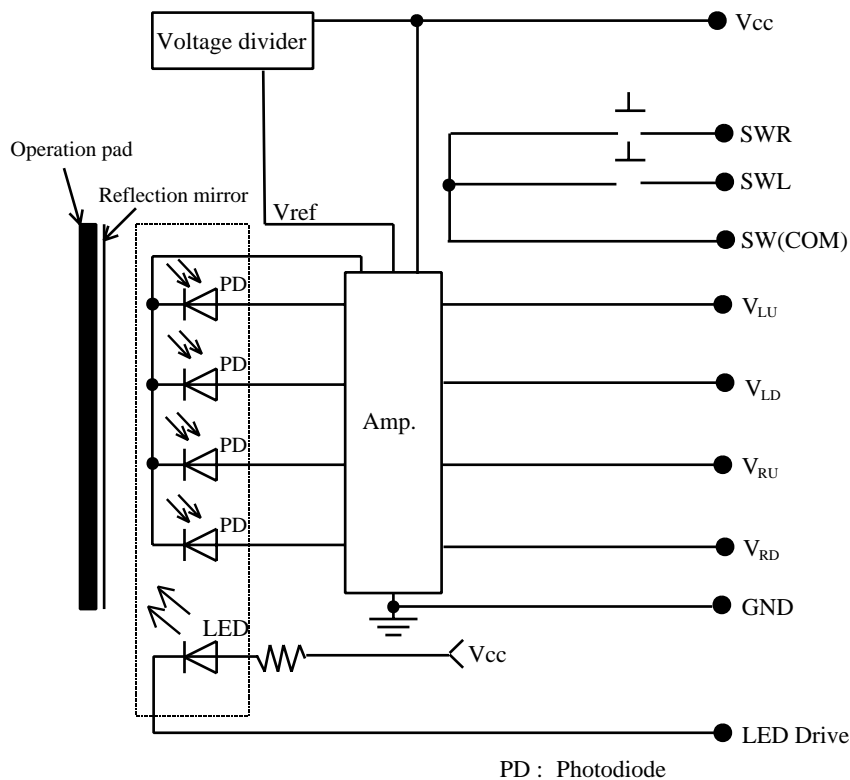
The addition output B for both X and Y axis : $B = 4 \times V_{ref} - (V_{LU} + V_{LD} + V_{RU} + V_{RD})$

V_{ref} is V_{LU}, V_{LD}, V_{RU} and V_{RD} in the LED-OFF mode.

*2 R_L=47Ω is the external resistor.

*3 Dissipation current including LED current

Internal Block Diagram



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