GP1A36RA/GP1A36RB Photointerrupter

OPIC Photointerrupter with Encoder Function

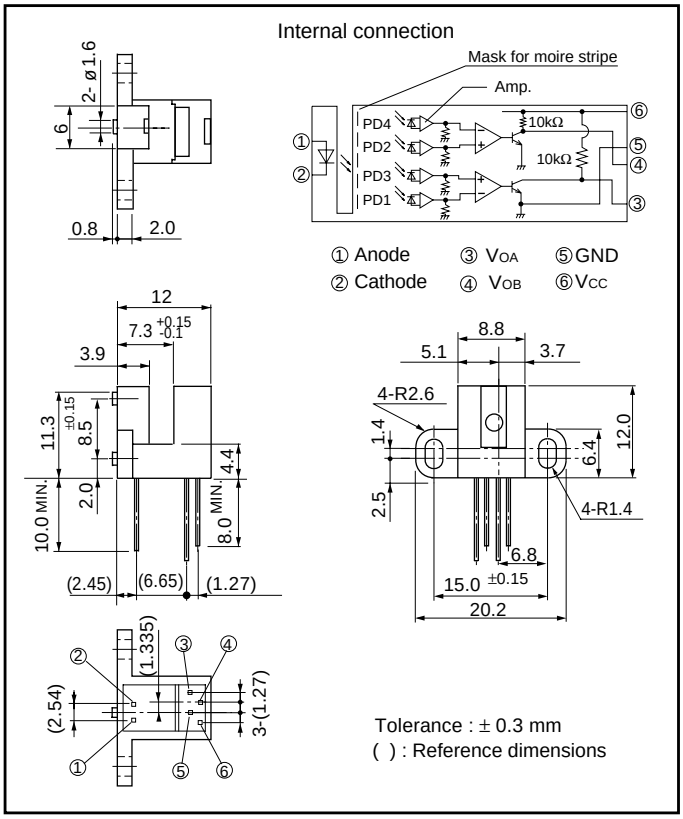
Features

(1) Linear encoder for reading linear scale
(2) High sensing accuracy thanks to moire stripe

Applications

(1) Printers

Outline Dimensions



*OPIC : OPIC (Optical IC) is a trademark of the SHARP Corporation. An OPIC consists of a light-detecting element and signal-processing circuit integrated onto a single chip.

Absolute Maximum Ratings

(Ta=25˚C)

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	65	mA
	*1Peak forward current	IFM	1	A
	Reverse voltage	VR	6	V
	Power dissipation	P	100	mW
Output	Supply voltage	VCC	7	V
	Low level output current	IOL	8	mA
	Power dissipation	PO	250	mW
Operating temperature		Topr	0 to + 70	˚C
Storage temperature		Tstg	-40 to +80	˚C
*2Soldering temperature		Tsol	260	˚C

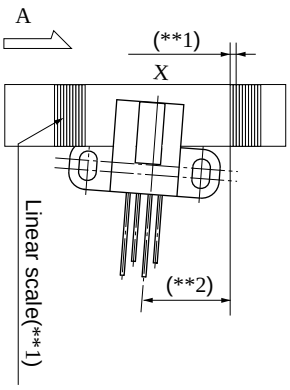
*1 Pulse width≤ 100 µs, Duty retio = 0.01 *2 For 5 s

■ Electro-optical Characteristics

(Ta=25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	I_F = 30 mA	-	1.2	1.5	V
	Reverse current	I_R	V_R = 3 V	-	-	10	μA
Output	Operating supply voltage	V_{CC}	-	4.5	5.0	5.5	V
	Low level output voltage	V_{OL}	I_{OL}= 8 mA, I_F = 30 mA, V_{CC}= 5 V	-	0.1	0.4	
	High level output voltage	V_{OH}	V_{CC} = 5 V, I_F = 30 mA	4.0	4.9	-	
	Supply current	I_{CC}	V_{CC}= 5 V, I_F = 30 mA	-	5	20	mA
Transfer characteristics	Duty ratio	D_A	I_F= 30 mA, V_{CC} = 5V *1 f=70 Hz, Z= 0.3 mm ±0.2 mm	30	50	70	%
		D_B					
	Phase difference	θ_{AB1}		50	90	130	°
	Response time	t_r	I_F= 30 mA, V_{CC}= 5 V *1 f=70 Hz, Z= 0.3 mm ±0.2 mm	-	1.0	2.0	μs
		t_f		-	1.0	2.0	
	Response frequency	f_{max}	I_F= 30 mA, V_{CC}= 5 V Z=0.3 mm ±0.2 mm	-	-	7	kHz

*1 **GP1A36RB**: f =100 Hz



1 **GP1A36RA: 90 DPI
GP1A36RB: 150 DPI

2 **GP1A36RA: 7.1˚
GP1A36RB: 4.28˚

Fig.1 Forward Current vs. Ambient Temperature

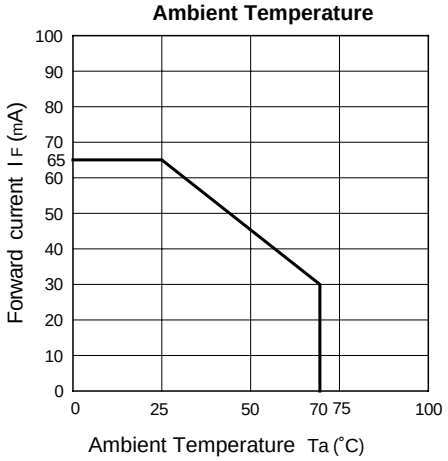
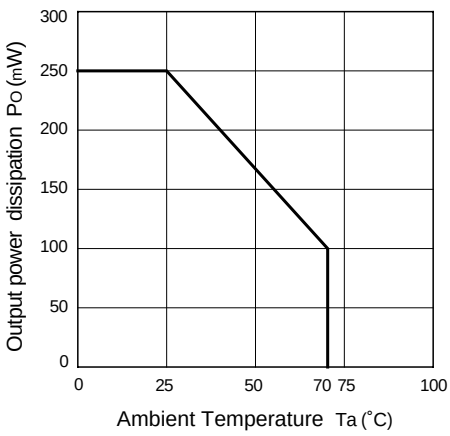


Fig.2 Output Power Dissipation vs. Ambient Temperature



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