

Photo diode IC

KODENSHI

KOD-3005

KOD - 3005 is a photo IC developed as a detector for optical pick ups of compact discs. The output impedance is low and stable due to the I - V amplifier. The detectors of tracking are set on both sides of 4 segmented photodiodes.

FEATURES

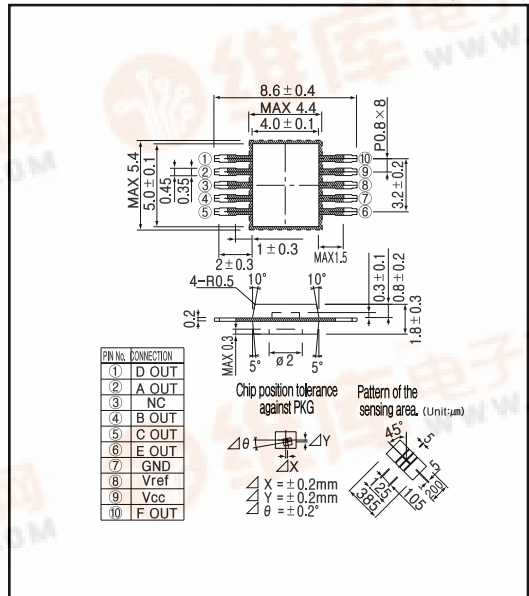
- Built - in I - V amplifier (current - to - voltage converter)
- Laser beam focusing/positioning is best performed by 4 segmented photodiodes
- Compact, clear mold package

APPLICATIONS

- Signal detection, focusing and positioning for CD and other optical disks

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
Supply voltage	V _{cc}	12	V
Reference voltage	V _{ref}	V _{cc}	V
Power dissipation	P _o	100	mW
Operating temp.	Topr.	- 20 + 80	
Storage temp.	Tstg.	- 40 + 90	

ELECTRO-OPTICAL CHARACTERISTICS

(V_{cc}=3V, V_{ref}=1.5V, R_L=10k , Ta=25)

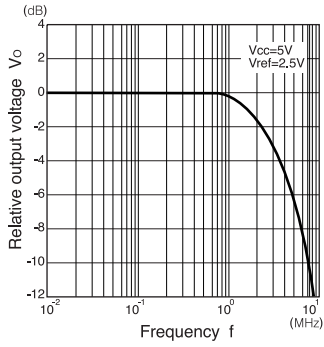
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Current consumption	V _{cc}	(shading)		2.5	3.5	mA
Output offset voltage (A F)	V _{off}	(shading)	- 15	0	15	mV
Output offset voltage difference (A F)	V _{off}	(A+B) - (C+D) (shading)	- 15	0	15	mV
		(A+D) - (B+C) (shading)	- 15	0	15	mV
		(A+C) - (B+D) (shading)	- 15	0	15	mV
		E - F (shading)	- 10	0	10	mV
Output voltage(A D)	V _o	Po=10μW =780nm	290	370	450	mV
Output voltage(E,F)	V _o	Po=10μW =780nm	610	770	930	mV
Maximum output voltage(A D)	Vomax	Po=100μW =780nm	2.0	2.2		V
Maximum output voltage(E,F)	Vomax	Po=100μW =780nm	2.0	2.2		V
Cutoff frequency(A D)	f _c	100kHz - 3dB	3.0	4.0		MHz
Cutoff frequency(E,F)	f _c	10kHz - 3dB	0.5	1.0		MHz
Noise level	V _n	RBW=30kHz, VBW=30kHz, f=1MHz		- 75	- 68	dBm
Peak wavelength	max			800		nm



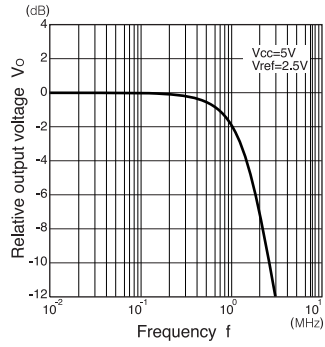
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KOD-3005

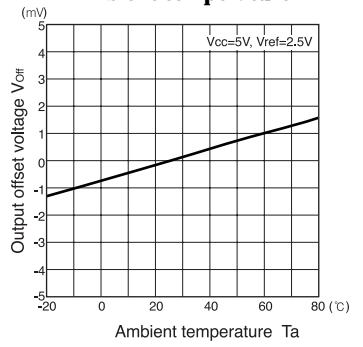
Focus



Tracking



Output offset voltage Vs. Ambient temperature



Relative output voltage Vs. Ambient temperature

