

Photo diode IC

KODENSHI

KOD-1016

Features

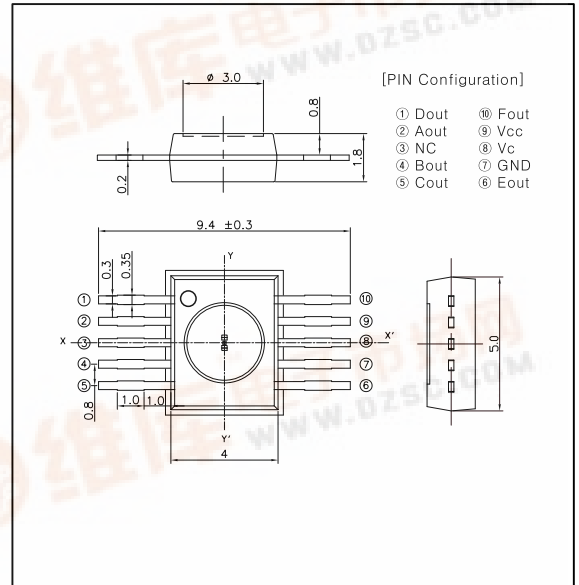
- Full CMOS Seven Channel, Integrated High Speed Photo Diodes and Current to Voltage Transimpedance Amplifiers
- Four High Speed Data Channels (A,B,C,D, 40MHz Min)
- Two Low Speed Tracking Channels (E, F, 1MHz Min)
- High PD Sensitivity Optimized for DVD Applications with Red Laser Diode ($\lambda = 650\text{nm}$) and for CD Applications with IR Laser Diodes ($\lambda = 780\text{nm}$)

Applications

- Optical Pick-up for DVD Player
- DVD-ROM / CD-ROM Pick-up

DIMENSIONS

(Unit : mm)



Absolute Maximum Ratings

[Ta = 25 °C]

Description	Symbol	Ratings	Condition
Power Supply Voltage	V _{cc}	4.75 ~ 5.25 V	(Note 1)
Output Voltage	V _o	V _{cc} + 0.3 V	V _A ~V _D
Storage Temperature	T _{stg}	- 40 ~ + 85 °C	V _{E1} ~V _{F2}

Note 1 : Dark condition. There is no incident light on the photodiodes.

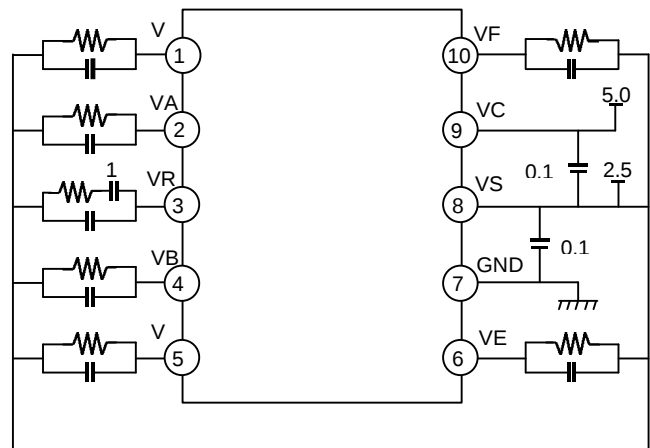
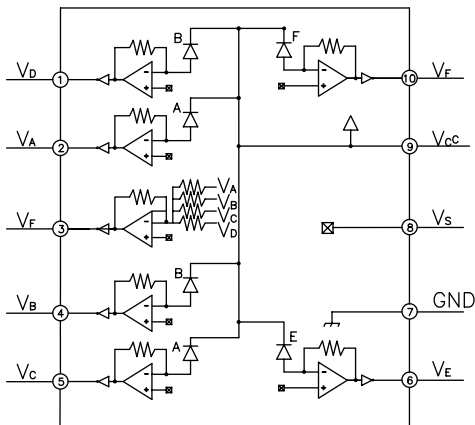
Electro-Optical Characteristics

[Ta = 25 °C]

Parameter	Symbol	Characteristics	Condition
Output Offset Voltage	V _{off}	±25mV	V _A ~V _D
		±15mV	V _{E1} ~V _{F2}
Output Offset Voltage Difference	△V _{off}	±20mV	V _{A/A} ~V _{D/D}
		±15mV	V _E ~V _F
Sensitivity	V _o	MIN 19.8 mV/μW	λ=780nm, V _A ~ V _D
		MIN 34.3 mV/μW	λ=780nm, V _E ~V _F
		MIN 18.0 mV/μW	λ=650nm, V _A ~ V _D
		MIN 31.2 mV/μW	λ=650nm, V _E ~V _F
Cutoff Frequency	f _c	MIN 40 MHz	P _o = 10 μW , -3dB (A~D)
		MIN 1 MHz	P _o = 10 μW , -3dB (E~F)
Maximum Output Voltage	V _{omax}	MIN 3.8V	P _o = 100 μW , λ = 780 nm
Output Noise Level	V _n	TYP -81dBm	f=20MHz, BW=30KHz, V _A ~V _D
Operating Temperature Range	T _{opr}	-10 ~ +70 °C	-

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Test Measurement Circuit Diagram



The external loading on all outputs is $10\text{ k}\Omega/20\text{ pF}$. The RF output has $1\mu\text{F}$ capacitor incorporated to removed the DC current.

Detecting Pattern of Photo Diode

