

## GA103T8R1MZ

## OPIC Light Detector

\* OPIC Light Detector for 60× Speed Writing CD-R/RW, 12× Speed Reading DVD-ROM

### Features

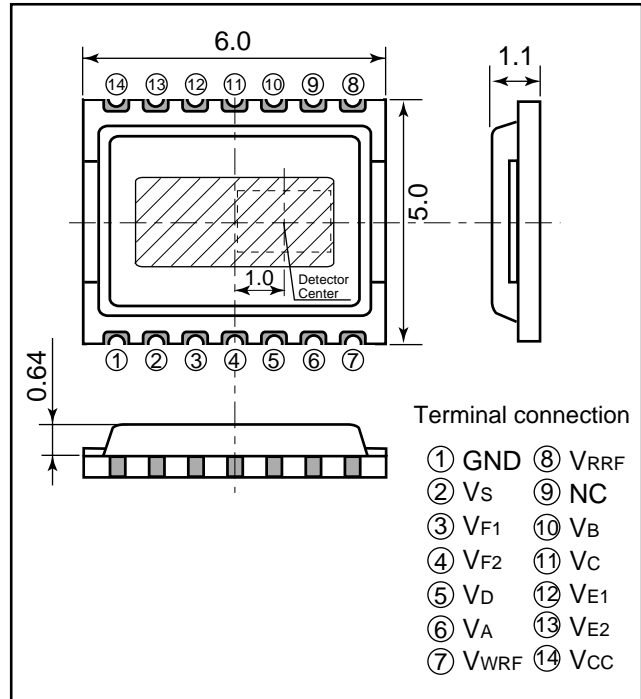
- (1) OPIC light detector with built-in RF amplifier  
(Integrates 8-division PIN photodiode and Amp. IC onto a single chip)  
CD-R : 60× speed writing  
CD-ROM : 60× speed reading  
DVD-ROM: 12× speed reading
- (2) Built-in bypass capacitor for power supply
- (3) Can read various discs such as CD-ROM, CD-R/RW, DVD-ROM, DVD-RAM/R/RW, DVD+R/RW
- (4) Surface mount-leadless package  
(Package dimensions: 5.0 × 6.0 × 1.1 mm)
- (5) Applicable for reflow

### Applications

- (1) CD-R/RW drives
- (2) DVD-R/RW drives
- (3) DVD+R/RW drives

### Outline Dimensions

(Unit:mm)



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

### Specifications

(λ=780nm, Ta=25°C)

Parameter	Symbol	Characteristics	Condition
Supply voltage	Vcc	4.5 to 5.5 V	-
Output off-set voltage	Vod	± 20 mV	VA ~ VD
Sensitivity1	RP1	TYP. 6.2 mV/μW	VA ~ VD
Sensitivity2	RP2	TYP. 12.8 mV/μW	VRRF
Sensitivity3	RP3	TYP. 0.52 mV/μW	VWRf
Response frequency	fc	MIN. 60 MHz	VRRF, -3 dB
Output noise level	Vn	TYP. - 80 dBm	VRRF, f=36 MHz, BW=30 kHz
Settling time	Tset	MAX. 11 ns	VA ~ VD, Output 1.25 V to 25 mV
Operating temperature	Topr	- 20 to + 70°C	-

#### (Notice)

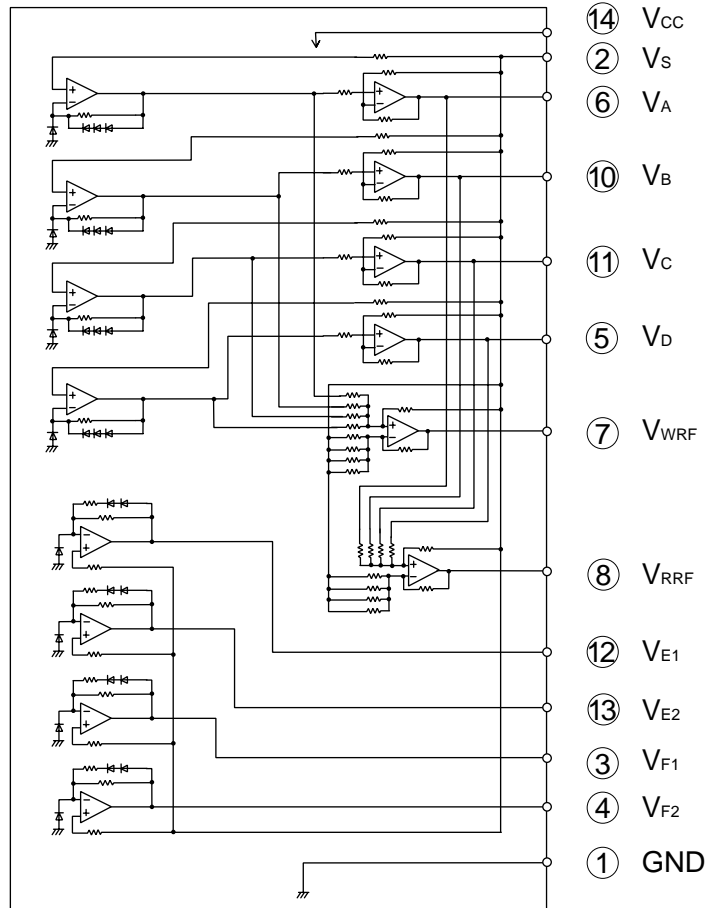
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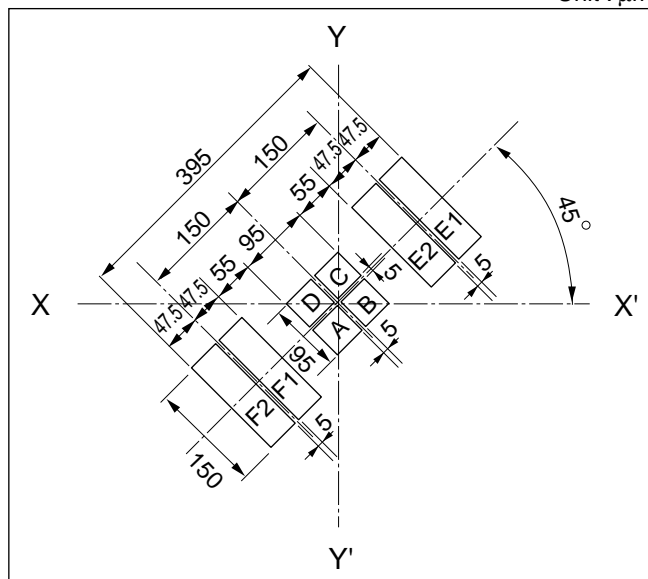
•Data for Sharp's optoelectronic/power devices is provided on internet. (Address <http://sharp-world.com/ecg/>)

### Internal Block Diagram



### Detecting Pattern of Photodiode

Unit :  $\mu\text{m}$



As of September, 2002

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    - Consumer electronics
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    - Alarm equipment
    - Various safety devices, etc.
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