

General Description

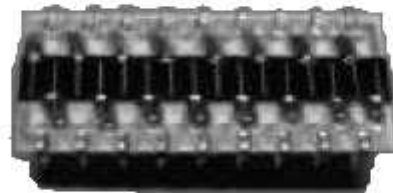
Optical device consisting of a monolithic 16 silicon PIN photodiode array chip with high uniformity for the output signals.

The active area of each photodiode is $2.8 \times 1.4 \text{ mm}^2$.

The high optical responsivity at 650 nm is due to the antireflective coating deposited on the photodiode active areas.

The low dark current is good for high signal-to-noise ratio applications.

The package type is ceramic DIL.



Applications

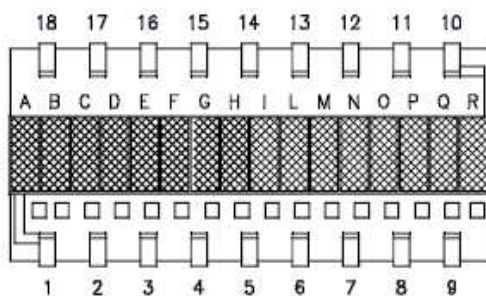
Bar Code Readers

General Purpose

Features

- High Responsivity = 0.5 A/W (@ $\lambda = 650 \text{ nm}$)
- Optical Pitch = 1.5 mm
- Available 32 Array Chip (pitch = 0.75 mm)
- Ceramic DIL Package

Pin Functions



No.	Name	Function
1	CC	Common Cathode
2	BA	PIN Diode B Anode
3	DA	PIN Diode D Anode
4	FA	PIN Diode F Anode
5	HA	PIN Diode H Anode
6	LA	PIN Diode L Anode
7	NA	PIN Diode N Anode
8	PA	PIN Diode P Anode
9	RA	PIN Diode R Anode
10	CC	Common Cathode
11	QA	PIN Diode Q Anode
12	OA	PIN Diode O Anode
13	MA	PIN Diode M Anode
14	IA	PIN Diode I Anode
15	GA	PIN Diode G Anode
16	EA	PIN Diode E Anode
17	CA	PIN Diode C Anode
18	AA	PIN Diode A Anode

Ordering Information

OIP50S01	Monolithic 16 Silicon PIN Photodiode Array Chip with Active Area of Each Phototransistor $2.8 \times 1.4 \text{ mm}^2$.
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ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min	Max	Unit
T_A	Operating Temperature Range	-40	100	°C
T_S	Storage Temperature	-40	100	°C
T_{Sol}	Lead Temperature (solder) 3s		230	°C
$V_{R(BR)}$	Reverse Breakdown Voltage @ $T_A=25^{\circ}\text{C}$ $I_R=10\mu\text{A}$	100		V
P_D	Power Dissipation @ $T_A=25^{\circ}\text{C}$		150	mW

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

$T_A = 25^{\circ}\text{C}$ unless otherwise noted.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
I_D	Dark Current	$V_R=10\text{V}$				pA
R_λ	Responsivity	$V_R=10\text{V}$ $\lambda=650\text{nm}$ $\Phi=10\mu\text{W}$		0.5		A/W
λ_p	Peak Responsivity	$V_R=10\text{V}$		850		nm
$\Delta\lambda$	Spectral Bandwidth @ 50%	$V_R=10\text{V}$	600		1000	nm

AC SWITCHING CHARACTERISTICS

$T_A = 25^{\circ}\text{C}$ unless otherwise noted.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
BW	Bandwidth (@ -3dB)	$V_R=10\text{V}$	10			MHz
C	Capacitance	$V_R=10\text{V}$ $f=1\text{MHz}$ $\Phi=0$			5	pF

MECHANICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
A	Active Area			3.92		mm^2
L	Length of the Active Area			2.8		mm
W	Width of the Active Area			1.4		mm

MECHANICAL DIMENSIONS

Units=mm Mechanical tolerance= $\pm 0.2\text{mm}$ Die positioning tolerance= $\pm 0.030\text{mm}$

