



PROTON

# JSC "Proton"

## Photodiode array chip SC142-01P

### Description

SC142-01P chip is fabricated using Silicon Bipolar process technology. The chip is designed to be used in MOS-relay. The chip is optimized for side-by-side MOS-relay design. The spectral response range is 0.85-0.92 nm.

New monolith polysilicon structure.

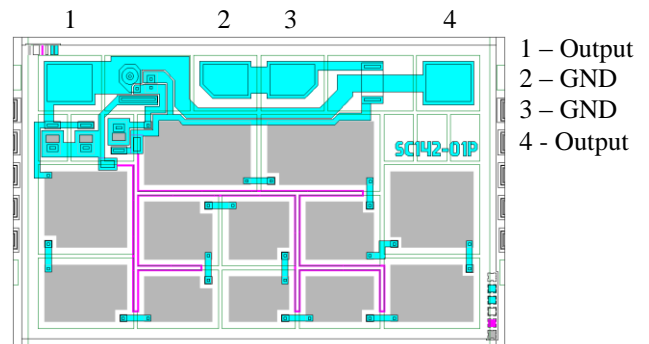
No delamination at high temperatures.

### Features

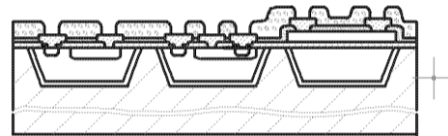
- 12 photodiodes
- Thyristor discharge circuit
- Contact pad`s material - Aluminium
- Chip size 1.0 x1.6 mm
- Chip thickness 0.32±0.02 mm

### Absolute maximum ratings

Storage temperature	-65°C to 150°C
Operating junction temperature	-55°C to 125°C



### Cross section view



### Electrical characteristics (T = 25 °C)

Parameter	Symbol	Unit	Min.	Typ.	Max.	Condition
Open Circuit Voltage	V <sub>OC</sub>	V	6.0	6.4		1
Short Circuit Current	I <sub>SC</sub>	μA	3.4	3.8	-	1
Output Voltage	V <sub>OUT</sub>	V		0.75	1.0	2
Discharge Resistor	R <sub>DIS</sub>	MOhm	15		50	
Turn-On Time	T <sub>ON</sub>	ms		0.2		3
Turn-Off Time	T <sub>OFF</sub>	ms		0.1		

1 – Parameters are guaranteed when coupled with I<sub>RLED</sub> = 10 mA with peak wavelength λ = 850 ±20 nm, Φ<sub>e</sub> = 1000 μW at distance 0.2 mm.

2 – No light. I<sub>F</sub> = 100 μA.

3 – Typical value at I<sub>RLED</sub> = 10 mA, C<sub>L</sub> = 250 pF. The PDA is coupled with LED Φ<sub>e</sub> = 500 μW with peak wavelength λ = 850 ±20 nm at distance 0.2 mm.