



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. Consists of 12 photodiodes that allows controlling MOSFET chips with threshold voltage 1-2 V.

New monolith polysilicon structure.

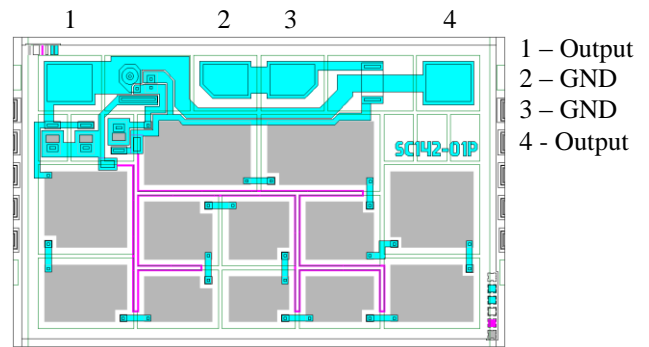
No delamination at high temperatures.

Features

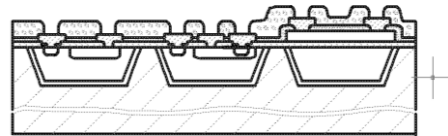
- 12 photodiodes
- Thyristor discharge circuit
- Contact pad's material - Aluminium
- Chip size 1.0 x 1.6 mm
- Chip thickness 0.32±0.02 mm

Absolute maximum ratings

Storage temperature	-55°C to 150°C
Operating junction temperature	-40°C to 100°C



Cross section view



Electrical characteristics (T = 25 °C)

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

1 – Light source with peak wavelength $\lambda = 850 \pm 20$ nm that provides surface irradiance $E_e = 20$ mWt/cm²

2 – No light. I_F = 100 μA

3 – Typical value at I_{RLED} = 10 mA, C_L = 250 pF. Coupled with LED $\Phi_e = 1400$ μW with peak wavelength $\lambda = 850 \pm 20$ nm.