

## Bare photo sensitive microchip K2634CHP1SN4

### Description

Microchip K2634CHP1SN4 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. It allows controlling MOSFET chips with threshold voltage 1-2 V.

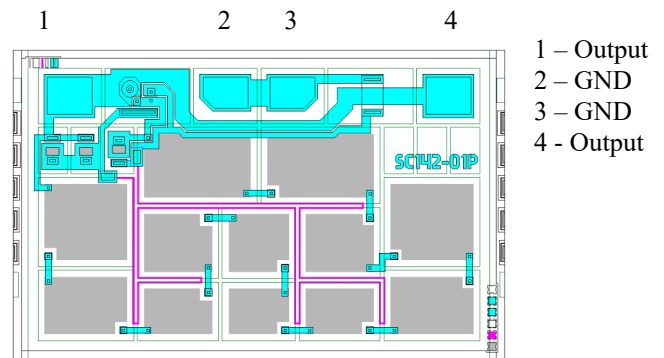
The range of spectral sensitivity is 850-940 nm.

### Features

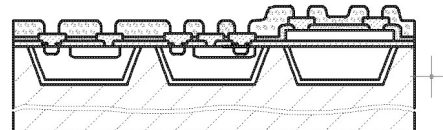
- 12 photodiodes
- Thyristor discharge circuit
- Contact pad’s material – Aluminum
- Module size 1.0 x 1.6 mm (including scribe line)
- Scribe line width 52  $\mu\text{m}$
- Chip thickness  $0.32 \pm 0.02$  mm

### Absolute maximum ratings

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



### Cross section view (without scale)



### 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	$I_{SC}$	$\mu\text{A}$	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	1	3
Turn-Off Time	$T_{OFF}$	ms	-	0.1	0.2	

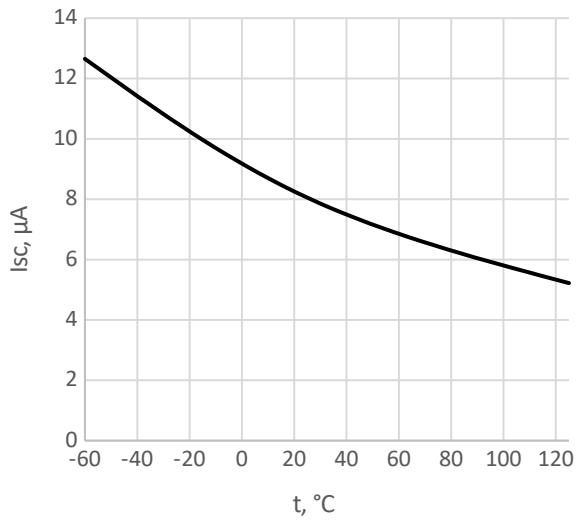
1 – Light source with peak wavelength  $\lambda = 850 \pm 20$  nm that provides surface irradiance  $E_e = 20$  mWt/cm<sup>2</sup>

2 – No light.  $I_F = 100$   $\mu\text{A}$

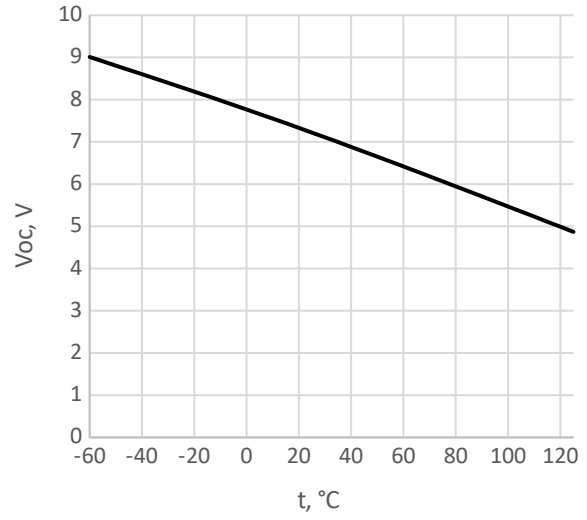
3 – Typical value at  $I_{RLED} = 10$  mA,  $C_L = 250$  pF. Coupled with IR-diode  $P_{rad} = 1400$   $\mu\text{W}$  (at 10 mA) with peak wavelength  $\lambda = 850 \pm 20$  nm.

## Typical characteristics

The typical characteristics are measured on a PDA chip coupled with IR-diode  $P_{\text{rad}} = 1400 \mu\text{W}$  (at 10 mA) with peak wavelength  $\lambda = 850 \pm 20 \text{ nm}$ .



Pic. 1 –  $I_{\text{sc}}$  vs temperature



Pic. 2 –  $V_{\text{oc}}$  vs temperature