

Photodiode array chip FM034MP.01

Description

FM034MP.01 chip is fabricated using Silicon Bipolar process technology. The chip is designed to be used in MOS-relay. It allows controlling MOSFET chips with threshold voltage 1-2 V. The range of spectral sensitivity is 850-940 nm.

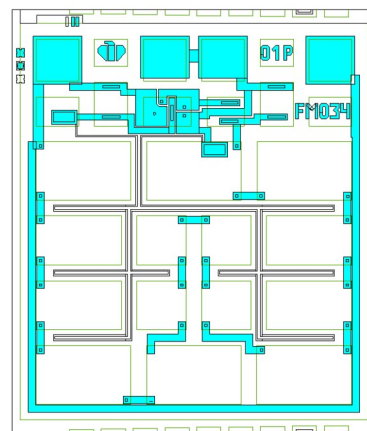
Features

- 14 photodiodes
- Thyristor discharge circuit
- Contact pad’s material – Aluminum
- Module size 1.2 x 1.4 mm (including scribe line)
- Scribe line width 56 μm
- Chip thickness 0.32 ± 0.02 mm

Absolute maximum ratings

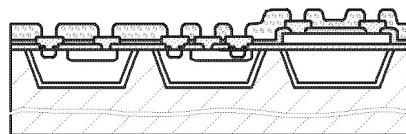
Storage temperature	- 65 °C to 150 °C
Operating Junction Temperature	- 55 °C to 125 °C

1 2 3 4



- 1 – Output
- 2 – GND
- 3 – GND
- 4 – Output

Cross section view (without scale)



Electrical characteristics (T = 25 °C)

Parameter	Symbol	Unit	Min.	Typ.	Max.	Condition
Open Circuit Voltage	V_{OC}	V	7.0	7.8	-	1
Short Circuit Current	I_{SC}	μA	3.4	4.2	-	1
Output Voltage	V_{OUT}	V	-	-	0.9	2
Discharge Resistor	R_{DIS}	MOhm	5.0	-	25.0	
Turn-On Time	T_{ON}	ms	-	-	1.0	3
Turn-Off Time	T_{ON}	ms	-	-	0.2	

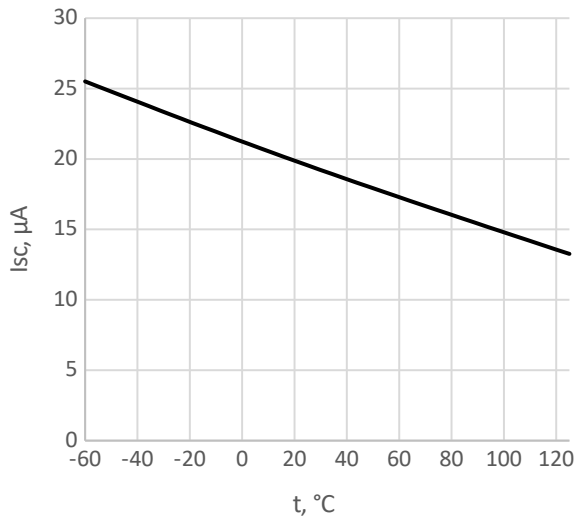
1 – Light source with peak wavelength $\lambda = 850 \pm 20$ nm that provides surface irradiance $E_e = 20$ mWt/cm².

2 – No light. $I_F = 100$ μA .

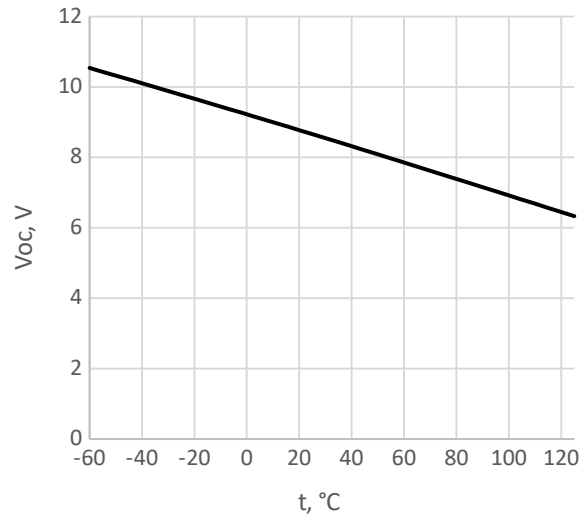
3 – Typical value at $I_{RLED} = 10$ mA, $C_L = 250$ pF. Coupled with IR-diode $P_{rad} = 1400$ μW (at 10 mA) with peak wavelength $\lambda = 850 \pm 20$ nm.

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_{sc} vs temperature



Pic. 2 – V_{oc} vs temperature