

MXP6501

Features

- Ambient Temperature Range -40°C to +85°C
- VCC Range 4.5V to 18V
- Supply Current 3.5mA max @ 5V
- Output sinks 16mA @ 400mV max
- Optical sensitivity adjustable

Maximum Ratings

Voltage at VCC	-0.5V to +20V
Voltage at OUT (Output off)	-0.5 to +20V
Current into OUT (Output On)	30mA

Electrical Characteristic @ 25°C

Input Diode

Symbol	Parameter	Min.	Typ.	Max.	Units	Test Conditions
V_R	Reverse Voltage	2.0			V	$I_R = 10\mu A$
V_F	Forward Voltage			1.95	V	$I_F = 100mA$
P_O	Radiant Power Output	4.0	7.5		mW	$I_F = 100mA$

Output Detector

Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Vcc Voltage Range	VccR	4.5	5	18	V	
Supply Current @ 5V (Output Low)	Icc5L	1.5	2.1	2.9	mA	LED ON; ADJ OPEN
Supply Current @ 5V (Output High)	Icc5H	1.8	2.5	3.5	mA	LED OFF; ADJ OPEN
Supply Current @ 18V (Output Low)	Icc18L	2.9	4.0	5.6	mA	LED ON; ADJ OPEN
Supply Current @ 18V (Output High)	Icc18H	2.2	3.1	4.4	mA	LED OFF; ADJ OPEN
Low Level Output Voltage @ 16mA (Vcc = 4.5V)	VOL 1	-	35	400	mV	LED ON; ADJ OPEN
Low Level Output Voltage @ 16mA (Vcc = 18V)	VOL 2	-	41	400	mV	LED ON; ADJ OPEN
High Level Output Voltage @ 100μA (Vcc = 4.5V)	VOH1	3.0	4.5	4.5	V	LED OFF; ADJ OPEN
High Level Output Voltage @ 100μA (Vcc = 18V)	VOH2	-	17.5	18.0	V	LED OFF; ADJ OPEN
Output Rise Time (Vcc = 5V)	t_r	-	44.0	60.0	nS	CI = 15 pF
Output Rise Time (Vcc = 5V)	t_f	-	16	30	nS	CI = 15 pF

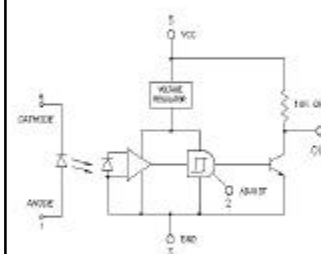
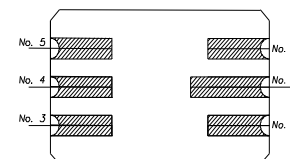
- Due to the high sensitivity of this device, a 0.1μF bypass capacitor is recommended (VCC to ground)
- Optical threshold may be raised by connecting an external resistor from adjust to ground.

External
Adjust Resistor
OPEN
10K
4.7K
2.2K
1K
(SHORT)

Typical Normalized
Optical Threshold
1.00
1.95
2.73
3.80
4.98
7.23

Opto Coupler With Logic Output and Adjustable Optical Threshold

6 Pin LCC



Schematic