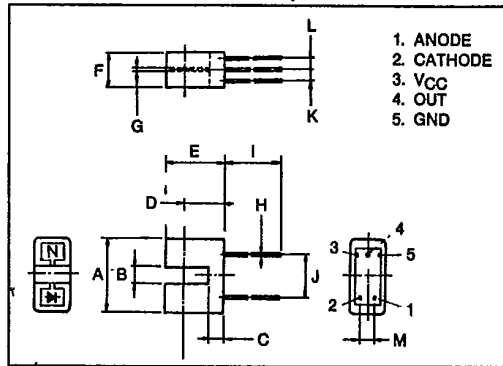


SLOTTED SWITCH

MTSS10040 INFRARED LED+ PHOTO IC

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- 1. ANODE
- 2. CATHODE
- 3. VCC
- 4. OUT
- 5. GND

APPLICATIONS

- TIMING DETECTION FOR PRINTERS, TYPEWRITERS AND FACSIMILE

FEATURES

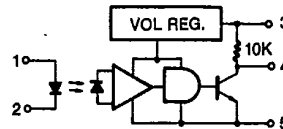
- Optical switch edge sensor.
- Positioning and rotation sensor.
- Digital output can connect directly to TTL.
- Output stays at high level when there is no interruption.
- No influence from outside light.
- High accuracy detector. Slot width: 0.5mm.
- TTL, LSTTL and CMOS compatible.
- High speed response.
- Surge absorbing diode included.

SYMBOL	INCHES	MM
A	0.512 ± 0.008	13.0 ± 0.2
B	0.118 ^{+0.008} / _{-0.004}	3.0 ^{+0.2} / _{-0.1}
C	0.098 ± 0.004	2.5 ± 0.1
D	0.270 ± 0.012	6.85 ± 0.3
E	0.394 ± 0.008	10.0 ± 0.2
F	0.244 ± 0.008	6.2 ± 0.2
G	0.020 ± 0.004	0.5 ± 0.1
H	0.018	0.45
I	0.709	18 MIN
J	0.3	7.62
K	0.075	1.9
L	0.075	1.9
M	0.100	2.54
N	0.020	0.5

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
A	Forward Current	I _F	50 mA
	Reverse Voltage	V _R	5 V
B	Supply Voltage	V _{CC}	16 V
	Total Power Output	P _O	250 mW
	Low Level Output Current	I _{OL}	50 mA
Operating Temperature Range	T _{opr}	-25 ~ 85	°C
Storage Temperature Range	T _{stg}	-40 ~ 100	°C
Soldering Temperature	T _{sol}	260, 5 sec.	°C

A - EMITTER B - DETECTOR



SLOTTED SWITCH

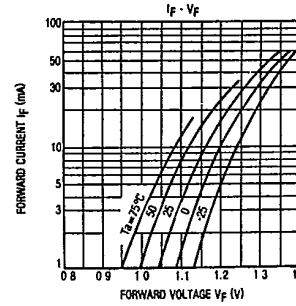
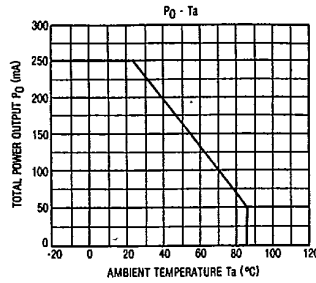
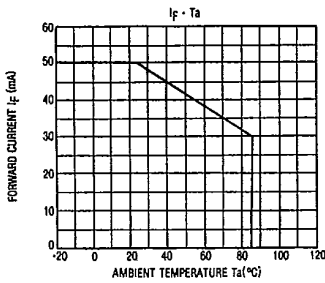
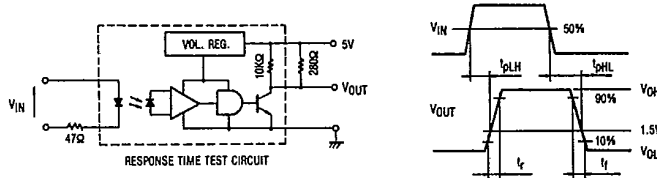
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OPTO-ELECTRICAL CHARACTERISTICS (Ta=25°C)

	CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
A	Forward Voltage	V _F	I _F =10mA	1.00	1.15	1.30	V
	Reverse Current	I _R	V _R =5V	—	—	10	μA
	Terminal Between Capacitance	C _T	V=0, f=1MHz	—	30	—	pF
B	Supply Voltage	V _{CC}	—	4.5	—	16	V
	Low Level Supply Current	I _{CC} L	V _{CC} =5V, I _F =0	—	6	15	mA
	High Level Supply Current	I _{CC} H	V _{CC} =5V, I _F =21mA	—	4	10	mA
	Low Level Output Voltage	V _{OL}	I _{OL} =16mA, V _{CC} =5V, I _F =0	—	0.15	0.4	V
	High Level Output Voltage	V _{OH}	V _{CC} =5V, I _F =21mA	4.0	—	—	V
C	Threshold Input Current	I _{FLH}	V _{CC} =5V	—	6	15	mA
	Hysteresis Ratio	I _{FLH} /I _{FLH} (-)/(+)	V _{CC} =5V	—	0.9	—	—
	L→H Transmit Time	t _{pLH}	V _{CC} =5V,	—	3	—	μs
	H→L Transmit Time	t _{pHL}	I _F =0↔21mA	—	5	—	μs
	Rise Time	t _r	R _L =280Ω	—	0.1	—	μs
	Fall Time	t _f		—	0.05	—	μs

- Output unstable for 100μs after power on.
- Surge Voltage Between Pins: 150V (Max).

A - EMITTER B - DETECTOR C - TRANSFER CHARACTERISTICS



SLOTTED SWITCH

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