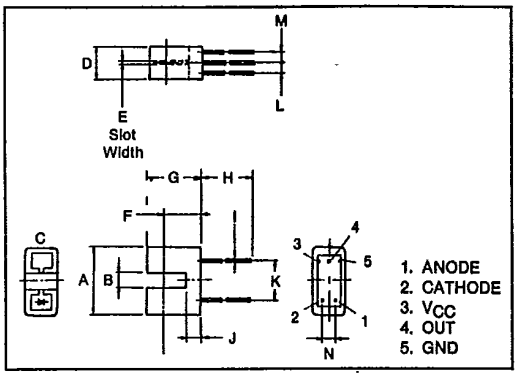
SLOTTED SWITCH

T-41-73

MTSS10050
INFRARED LED+ PHOTO IC



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 low level when there is no interruption.
- No influence from outside light.
- High accuracy detector. Slot width: 0.5mm.
- TTL, LSTTL and CMOS compatible.
- 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	0.020	0.5
D	0.244 ± 0.008	6.2 ± 0.2
E	0.020 ± 0.004	0.5 ± 0.1
F	0.270 ± 0.012	6.85 ± 0.3
G	0.394 ± 0.008	10.0 ± 0.2
H	0.709	18 MIN
I	0.018	0.45
J	0.098 ± 0.004	2.5 ± 0.1
K	0.300	7.62
L	0.075	1.9
M	0.075	1.9
N	0.100	2.54

MAXIMUM RATINGS (Ta = 25°C)

	CHARACTERISTIC	SYMBOL	RATING	UNIT
A	Forward Current	I_F	50	mA
A	Reverse Voltage	V_R	5	V
B	Supply Voltage	V_{CC}	16	V
B	Total Output Power Dissipation	P_o	250	mW
B	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}	250, 5 sec.	°C

A - EMITTER B - DETECTOR

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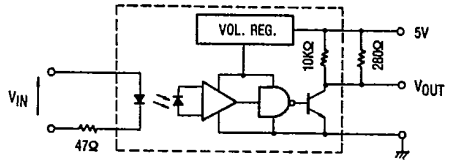
OPTO-ELECTRICAL CHARACTERISTICS (Ta=25°C)

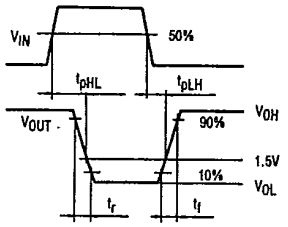
	CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX.	UNIT
A	Forward Voltage	V_F	I_F=10mA	1.00	1.15	1.30	V
	Reverse Current	I_R	V_R=5V	—	—	10	μA
	Terminal Between Capacitance	C_T	V=0, f=1MHz	—	30	—	pF
B	Supply Voltage	V_{CC}	—	4.5	—	16	V
	Low Level Supply Current	I_{CCL}	V_{CC}=5V, I_F=21mA	—	6	15	mA
	High Level Supply Current	I_{CCH}	V_{CC}=5V, I_F=0	—	7	20	mA
	Low Level Output Voltage	V_{OL}	I_{OL}=16mA, V_{CC}=5V, I_F=21mA	—	0.15	0.4	V
	High Level Output Voltage	V_{OH}	V_{CC}=5V, I_F=0	4.0	—	—	V
C	Threshold Input Current	I_{FLH}	V_{CC}=5V	—	6	15	mA
	Hysterisis Ratio	$I_{FHL}(-)/I_{FLH}(+)$	V_{CC}=5V	—	1.1	—	—
	L→H Transmit Time	t_{pLH}	V_{CC}=5V,	—	8	—	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

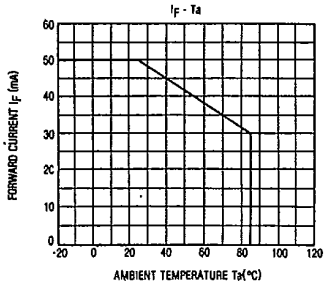
- Output unstable for 100μs after power on.
- Surge Voltage Between Pins: 150V (Max.).

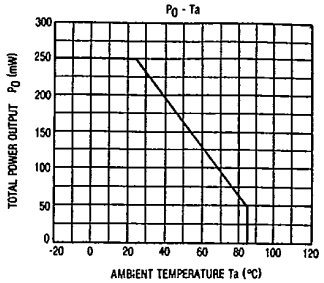
A - EMITTER **B** - DETECTOR **D** - TRANSFER CHARACTERISTICS

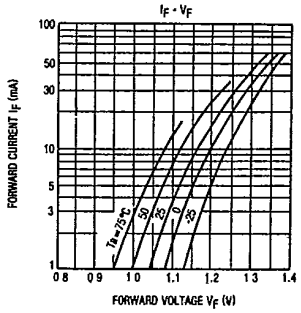


RESPONSE TIME TEST CIRCUIT









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