

SLOTTED SWITCH

T-41-73

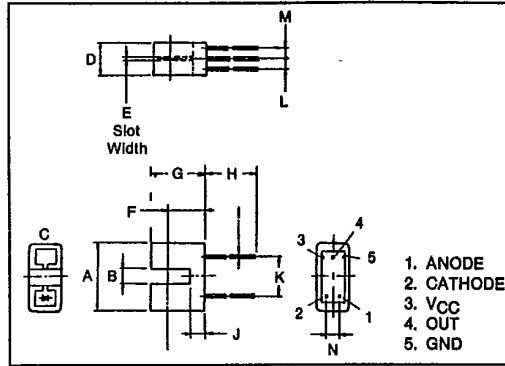
MTSS10050 INFRARED LED+ PHOTO IC

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
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
	Reverse Voltage	V _R	5	V
	Supply Voltage	V _{CC}	16	V
B	Total Output Power Dissipation	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}	250, 5 sec.	°C

A - EMITTER B - DETECTOR

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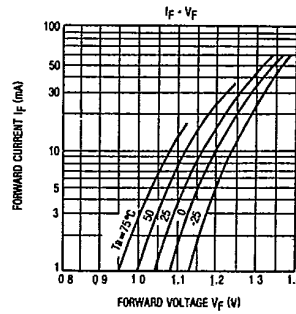
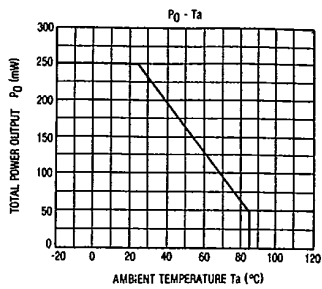
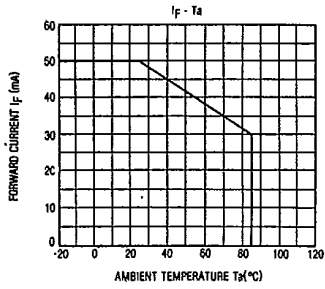
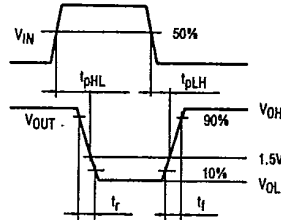
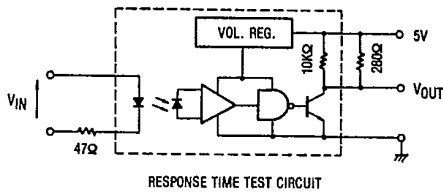
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OPTO-ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX.	UNIT
Forward Voltage	V_F	$I_F=10\text{mA}$	1.00	1.15	1.30	V
Reverse Current	I_R	$V_R=5\text{V}$	—	—	10	μA
Terminal Between Capacitance	C_T	$V=0, f=1\text{MHz}$	—	30	—	pF
Supply Voltage	V_{CC}	—	4.5	—	16	V
Low Level Supply Current	I_{CCL}	$V_{CC}=5\text{V}, I_F=21\text{mA}$	—	6	15	mA
High Level Supply Current	I_{CCH}	$V_{CC}=5\text{V}, I_F=0$	—	7	20	mA
Low Level Output Voltage	V_{OL}	$I_{OL}=16\text{mA}, V_{CC}=5\text{V}, I_F=21\text{mA}$	—	0.15	0.4	V
High Level Output Voltage	V_{OH}	$V_{CC}=5\text{V}, I_F=0$	4.0	—	—	V
Threshold Input Current	I_{FLH}	$V_{CC}=5\text{V}$	—	6	15	mA
Hysteresis Ratio	I_{FHL}/I_{FLH} ($\frac{-}{+}$)	$V_{CC}=5\text{V}$	—	1.1	—	—
L→H Transmit Time	t_{pLH}	$V_{CC}=5\text{V}, I_F=0 \rightarrow 21\text{mA}$	—	8	—	μs
H→L Transmit time	t_{pHL}	$I_F=0 \rightarrow 21\text{mA}$	—	5	—	μs
Rise Time	t_r	$R_L=280\Omega$	—	0.1	—	μs
Fall Time	t_f		—	0.05	—	μs

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

A - EMITTER B - DETECTOR D - TRANSFER CHARACTERISTICS



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