

REFLECTIVE SWITCH

T-41-73

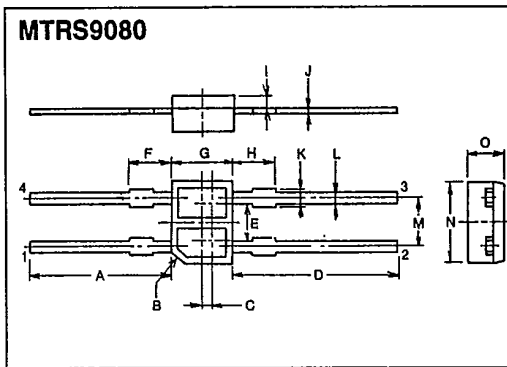
MTRS9080, MTRS9080(LB) INFRARED LED+ PHOTO TRANSISTOR

APPLICATIONS

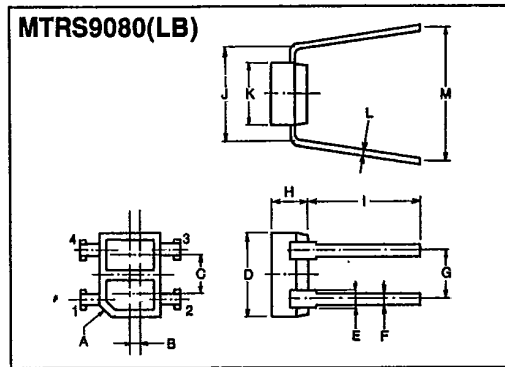
- SENSOR FOR AUDIO, VIDEO, FILM AND DISCS
- PAPER POSITION SENSOR FOR ELECTRONIC PRINTERS & FACSIMILE.

FEATURES

- Detects start/finish/location on reel for audio and VCR tapes.
- Index for floppy disc drives.
- Detects "write protect" on floppy disc (also disc in drive).
- Detects optically encoded information on film.
- Super-miniature package (2.6x3.4x1.5mm).
- High sensitivity: $I_C = .75\text{mA}$.
- High speed response.



SYMBOL	INCHES	MM
A	0.276 ± 0.020	7.0 ± 0.5
B	0.020	0.5
C	0.018	0.45
D	0.276 ± 0.020	7.0 ± 0.5
E	0.063	1.6
F	0.071 ± 0.008	1.8 ± 0.2
G	0.102 - 0.008	2.6 - 0.2
H	0.071 ± 0.008	1.8 ± 0.2
I	0.020 ± 0.004	0.5 ± 0.1
J	0.008 $\begin{smallmatrix} +0.004 \\ -0.020 \end{smallmatrix}$	0.2 $\begin{smallmatrix} +0.1 \\ -0.15 \end{smallmatrix}$
K	0.028 ± 0.008	0.7 ± 0.2
L	0.157 - 0.020 ± 0.008	4 - 0.5 ± 0.2
M	0.079	2.0
N	0.134 $\begin{smallmatrix} +0.020 \\ -0.008 \end{smallmatrix}$	3.4 $\begin{smallmatrix} +0.5 \\ -0.2 \end{smallmatrix}$
O	0.059 ± 0.008	1.5 ± 0.2



SYMBOL	INCHES	MM
A	0.002	0.05
B	0.018	0.45
C	0.063	1.6
D	0.134 $\begin{smallmatrix} +0.020 \\ -0.008 \end{smallmatrix}$	3.4 $\begin{smallmatrix} +0.5 \\ -0.2 \end{smallmatrix}$
E	0.028 ± 0.008	0.7 ± 0.2
F	0.157 - 0.020 ± 0.008	4 - 0.5 ± 0.2
G	0.079	2.0
H	0.059 ± 0.008	1.5 ± 0.2
I	0.220 ± 0.024	5.6 ± 0.6
J	0.157 ± 0.010	4.0 ± 0.25
K	0.102 $\begin{smallmatrix} +0.008 \\ -0.008 \end{smallmatrix}$	2.6 $\begin{smallmatrix} +0.5 \\ -0.2 \end{smallmatrix}$
L	0.008 $\begin{smallmatrix} +0.004 \\ -0.002 \end{smallmatrix}$	0.2 $\begin{smallmatrix} +0.1 \\ -0.05 \end{smallmatrix}$
M	0.148 ~ 0.287	3.75 ~ 7.3

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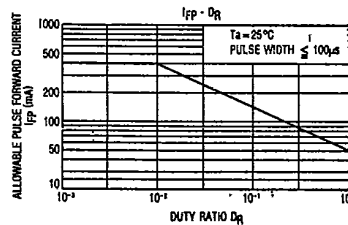
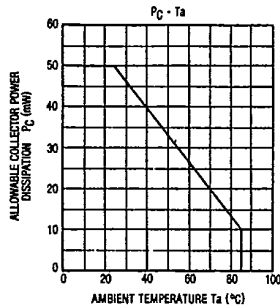
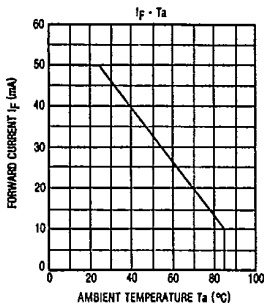
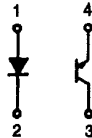
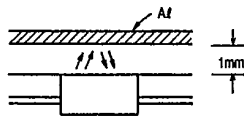
MAXIMUM RATINGS (Ta = 25°C)

	CHARACTERISTIC	SYMBOL	RATING	UNIT
A	Forward Current	I _F	50	mA
	Pulse Forward Current (Note 1)	I _{FP}	400	mA
	Reverse Voltage	V _R	5	V
B	Collector-Emitter Voltage	V _{CEO}	30	V
	Emitter-Collector Voltage	V _{ECO}	5	V
	Collector Power Dissipation	P _C	50	mW
	Collector Current	I _C	20	mA
	Operating Temperature Range	T _{opr}	-25 ~ 85	°C
	Storage Temperature Range	T _{stg}	-30 ~ 100	°C

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

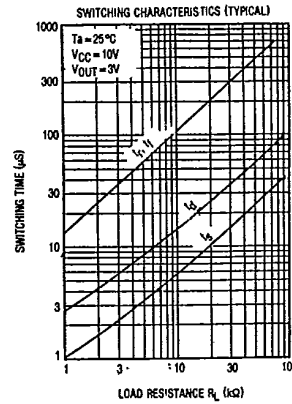
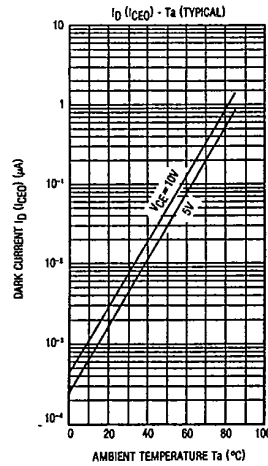
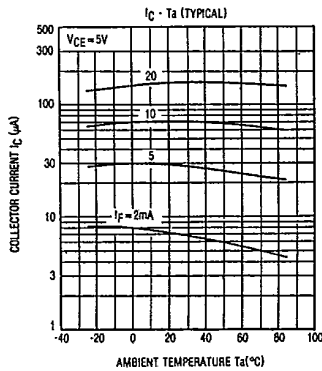
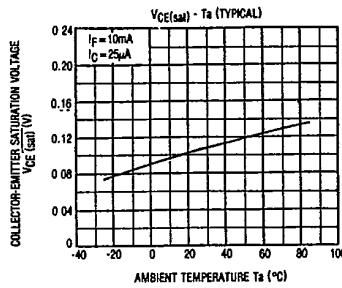
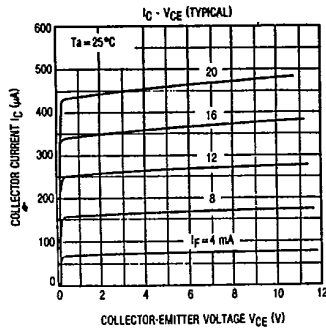
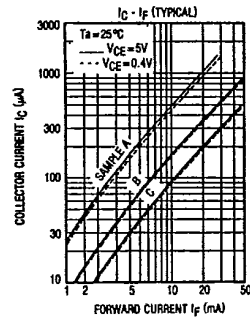
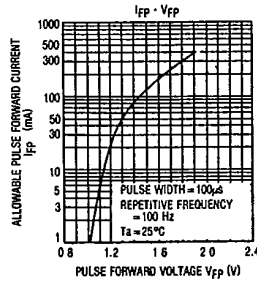
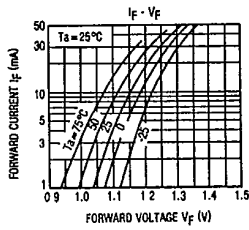
	CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
A	Forward Voltage	V _F	I _F = 10mA	1.00	1.15	1.30	V
	Reverse Current	I _R	V _R = 5V	—	—	10	μA
	Terminal Between Capacitance	C _T	V = 0, f = 1MHz	—	30	—	pF
B	Collector Dark Current	I _D (CEO)	V _{CE} = 10V, I _F = 0	—	—	0.1	μA
	Terminal Between Capacitance	C _T	V = 0, F = 1MHz	—	13	—	pF
C	Collector Current	I _C	V _{CE} = 5V, I _F = 10mA	50	—	750	μA
	Leakage Current	I _{LEAK}	V _{CE} = 5V, I _F = 10mA	—	—	0.1	μA
	Collector-Emitter Saturation	V _{CE(sat)}	I _F = 10mA, I _C = 25μA	—	.15	0.4	V
	Rise Time	t _r	V _{CC} = 10V, I _C = 1mA	—	10	—	μs
	Fall Time	t _f	R _L = 1kΩ	—	10	—	μs

A - EMITTER B - DETECTOR C - COUPLED Note: 1) Pulse width 100μs; 100Hz



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