

MTRS9030

INFRARED LED & PHOTO DARLINGTON TRANSISTOR

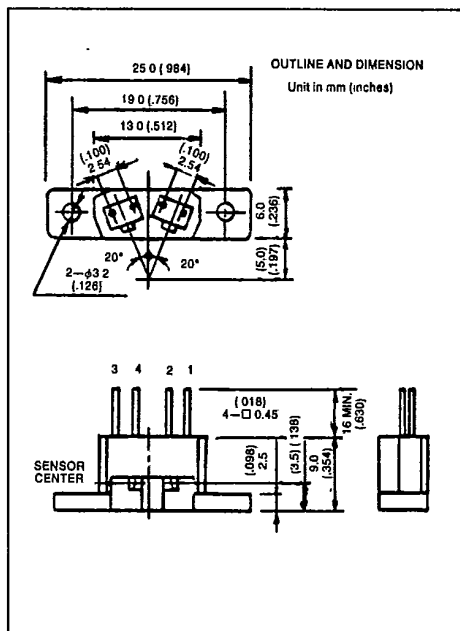
APPLICATIONS

HIGH SENSITIVE OPTICALLY REFLECTIVE SENSOR

- OPTICAL SWITCH
- TAPE EDGE SENSOR
- COPIER PAPER SENSOR

FEATURES

- High Sensitivity.
- Non Sensitivity for Visible Light.

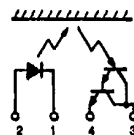


MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
LED	Forward Current	I _F	50	mA
	Pulse Forward Current (Note 1)	I _{FP}	600	mA
	Reverse Voltage	V _R	5	V
DETECTOR	Collector-Emitter Voltage	V _{CEO}	30	V
	Emitter-Collector Voltage	V _{ECO}	5	V
	Collector Current	I _C	50	mA
	Collector Power Dissipation	P _O	75	mW
Operating Temperature Range		T _{opr}	-25 ~ 85	°C
Storage Temperature Range		T _{stg}	-40 ~ 100	°C

Note 1: Pulse width ≤ 100μs, Repetitive frequency = 100Hz.

PIN CONFIGURATIONS



1. CATHODE
2. ANODE
3. COLLECTOR
4. EMITTER

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
LED	Forward Voltage	V _F	I _F =10mA	—	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
DET.	Dark Current	I _D (I _{CEO})	V _{CE} =16V, I _F =0	—	30	250	nA
COUP.	Collector Current (Note 2)	I _C	V _{CE} =2V, I _F =10mA	200	1000	—	μA
	Rise Time, Fall Time	t _r , t _f	V _{CC} =5V, I _C =10mA R _L =100Ω	—	200	—	μs

Note 2: Reflective Efficiency 90% White Paper, Detection Distance 5mm.

