

# PHOTO TRANSISTOR

T-41-61

## MTD6100 SILICON NPN EPITAXIAL PLANAR

### APPLICATIONS

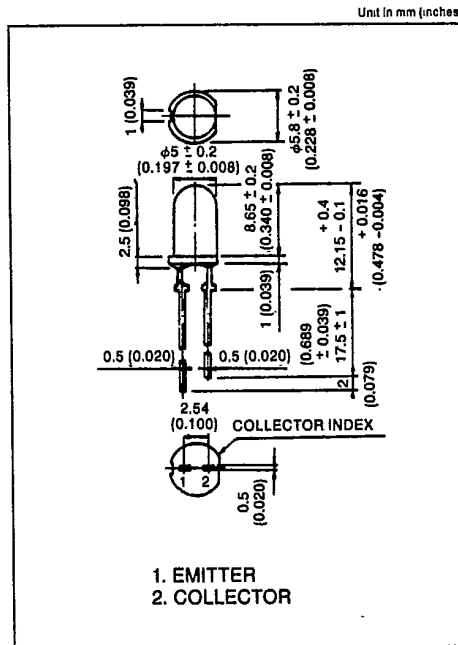
- OPTICAL SWITCH
- TAPE, CARD READERS
- VELOCITY SENSOR

### FEATURES

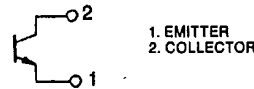
- High Sensitivity:  $I_L = 250\mu A$  (Typ.)
- Spectrally and Mechanically Matched with IR Emitter MTE1050A, MTE1100, MTE1110 and MTE2050.
- Glass-to-Metal-Seal Header.
- Saturation Level Directly Compatible with Most TTL.

### MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	$V_{CE0}$	30	V
Emitter-Collector Voltage	$V_{ECO}$	5	V
Collector Current	$I_C$	50	mA
Collector Power Dissipation	$P_C$	150	mW
Collector Power Dissipation Derating	$\Delta P_C/^\circ C$	-2.0	mW/ $^\circ C$
Operating Temperature Range	$T_{opr}$	-20 ~ 75	$^\circ C$
Storage Temperature Range	$T_{stg}$	-30 ~ 100	$^\circ C$



### PIN CONNECTION

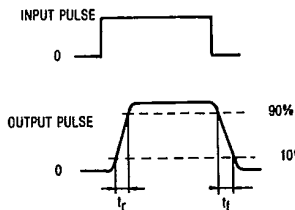
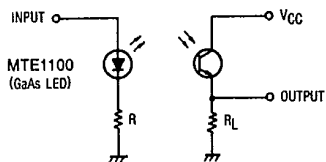


### OPTO-ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX.	UNIT
Dark Current	$I_D(I_{CEO})$	$V_{CE}=24V, E=0$	—	5	100	nA
Light Current	$I_L(I_C)$	$V_{CE}=3V, E=0.1mW/cm$ (Note)	100	250	—	$\mu A$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50\mu A, E=0.1mW/cm$	—	0.25	0.4	V
Switching Time	Rise Time	$V_{CC}=5V, I_C=2mA, R_L=100\Omega$ (Fig. 1)	—	6	—	$\mu s$
	Fall Time					

Note: Color temperature = 2870°K Standard Tungsten Lamp.

FIG. 1 SWITCHING TIME TEST CIRCUIT



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