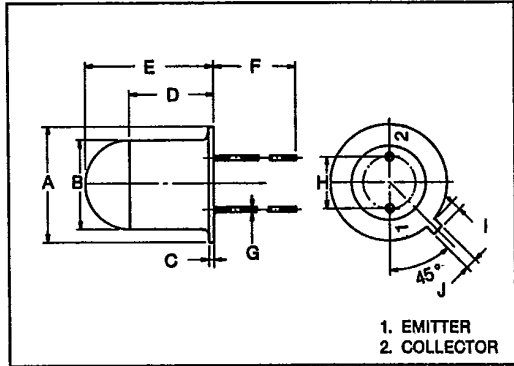


# PHOTO TRANSISTOR

T-41-61

**MTD6010A**  
**SILICON NPN**  
**EPITAXIAL PLANAR**  
**SILICON PHOTO TRANSISTOR**  
**FOR PHOTO SENSOR**



**APPLICATIONS**

- OPTICAL SWITCH
- TAPE, CARD READERS
- VELOCITY SENSOR

**FEATURES**

- High sensitivity:  $I_L = 250\mu A$
- Spectrally and mechanically matched with IR emitter MTE1010A.
- Glass-to-metal-seal header.
- Saturation level directly compatible with most TTL.

**MAXIMUM RATINGS (Ta = 25°C)**

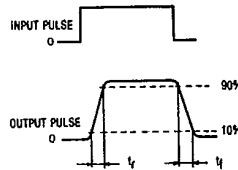
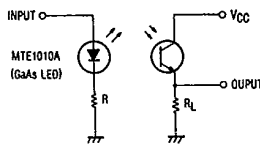
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Collector Voltage	$V_{ECO}$	5	V
Collector Current	$I_C(I_L)$	50	mA
Collector Power Dissipation	$P_C$	150	mW
Collector Power Dissipation Derating	$\Delta P_C/^\circ C$	-1.2	mW/°C
Operating Temperature Range	$T_{opr}$	-40 ~ 125	°C
Storage Temperature Range	$T_{stg}$	-55 ~ 150	°C

SYMBOL	INCHES	MM
A	0.228	5.8 MAX
B	$0.185^{+0.004}_{-0.008}$	$4.7^{+0.1}_{-0.15}$
C	0.020	0.5
D	0.177	4.5
E	$0.256 \pm 0.020$	$6.5 \pm 0.5$
F	0.512 MIN	13 MIN
G	0.018	0.45
H	0.100	2.54
I	0.039	1.0
J	0.039	1.0

**OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX.	UNIT
Dark Current	$I_D(I_{CEO})$	$V_{CE}=30V, E=0$	—	10	200	nA
Light Current	$I_L$	$V_{CE}=3V, E=0.1mW/cm^2$	100	250	—	$\mu A$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=30\mu A, E=0.1mW/cm^2$	—	0.25	0.4	V
Switching Time	Rise Time	$V_{CC}=5V, I_C=10mA, R_L=100\Omega$ (Fig. 1)	—	2	—	$\mu s$
	Fall Time		—	2	—	$\mu s$

Fig 1 SWITCHING TIME TEST CIRCUIT



# PHOTO TRANSISTOR

T-4161

