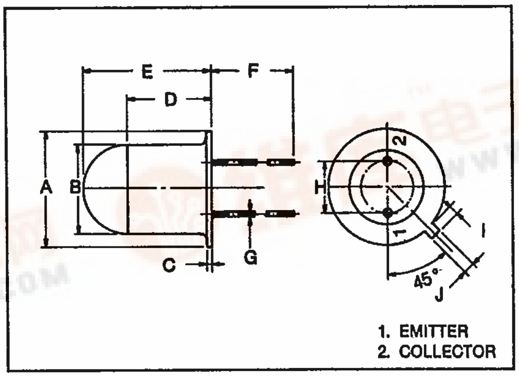
PHOTO TRANSISTOR

T-41-61

MTD6010A

SILICON NPN EPITAXIAL PLANAR

SILICON PHOTO TRANSISTOR FOR PHOTO SENSOR



SYMBOL	INCHES	MM
A	0.228	5.8 MAX
B	$0.185\ ^{+0.004}_{-0.006}$	$4.7\ ^{+0.1}_{-0.15}$
C	0.020	0.5
D	0.177	4.5
E	0.256 ± 0.020	6.5 ± 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

APPLICATIONS

- OPTICAL SWITCH
- TAPE, CARD READERS
- VELOCITY SENSOR

FEATURES

- High sensitivity: I_L =250μA
- 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	$\Delta P_C/°C$	−1.2	mW/°C
Operating Temperature Range	T_{opr}	−40 ~ 125	°C
Storage Temperature Range	T_{stg}	−55 ~ 150	°C

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/cm²	100	250	—	μA
Collector-Emitter Saturation Voltage		$V_{CE\ (sat)}$	IC=30μA, E=0.1mW/cm²	—	0.25	0.4	V
Switching Time	Rise Time	t_r	V_{CC}=5V, I_C=10mA, R_L=100Ω (Fig. 1)	—	2	—	μs
	Fall Time	t_f		—	2	—	μs

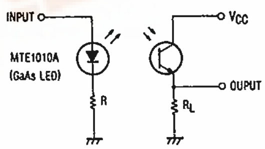
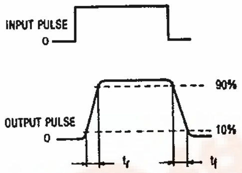


Fig 1 SWITCHING TIME TEST CIRCUIT



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