

PHOTO TRANSISTOR

T-41-61

MTD6140

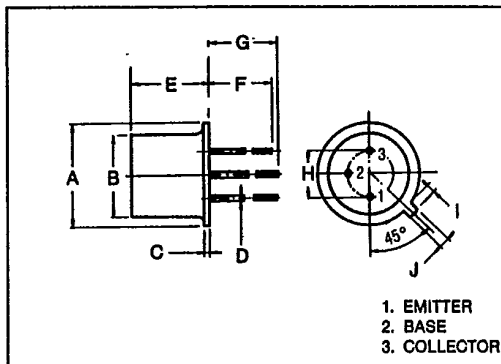
**SILICON NPN
EPITAXIAL PLANAR
TENTATIVE SILICON
PHOTO TRANSISTOR
FOR PHOTO SENSOR**

APPLICATIONS

- OPTICAL SWITCH
- TAPE, CARD READERS
- VELOCITY SENSOR

FEATURES

- High sensitivity: $I_L = 1.5\text{mA}$.
- Spectrally and mechanically matched with IR emitter MTE1080.
- Glass-to-metal-seal header.
- Saturation level directly compatible with most TTL.



SYMBOL	INCHES.	MM
A	0.228	5.8 MAX
B	0.185 ± 0.004	4.7 ± 0.1
C	0.020	0.5
D	0.018	0.45
E	0.177	4.5
F	0.500 MIN	12.7 MIN
G	0.539 MIN	13.7 MIN
H	0.100	2.54
I	0.039	1.0
J	0.039	1.0

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

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	$\Delta P_C/^\circ\text{C}$	-1.2	mW/°C
Operating Temperature Range	T_{opr}	-40 ~ 125	°C
Storage Temperature Range	T_{stg}	-50 ~ 150	°C

OPTO-ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Dark Current	$I_D(I_{CEO})$	$V_{CE} = 30\text{V}, E = 0$	—	10	200	nA
Light Current	I_L	$V_{CE} = 3\text{V}, E = 10\text{mW/cm}^2$ (Note)	0.6	1.5	—	mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.3\text{mA}, E = 10\text{mW/cm}^2$	—	0.25	0.4	V
Switching Time	Rise Time	$V_{CC} = 5\text{V}, I_C = 10\text{mA}, R_L = 100\Omega$ (Fig. 1)	—	2	—	μs
	Fall Time		—	2	—	

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

Fig. 1 SWITCHING TIME TEST CIRCUIT

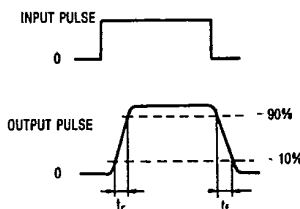
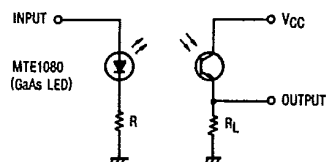


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