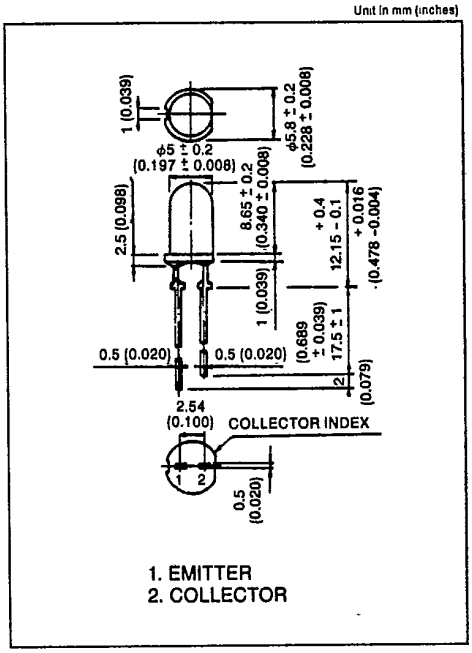
PHOTO TRANSISTOR T-41-61

MTD6100
SILICON NPN EPITAXIAL PLANAR

Unit in mm (inches)

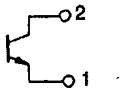


1. EMITTER
2. COLLECTOR

APPLICATIONS
- OPTICAL SWITCH
- TAPE, CARD READERS
- VELOCITY SENSOR

FEATURES
- High Sensitivity: I_L = 250μA (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.

PIN CONNECTION



1. EMITTER
2. COLLECTOR

MAXIMUM RATINGS (Ta = 25°C)

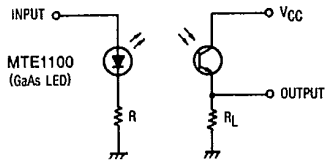
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector Voltage	V_{ECO}	5	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	150	mW
Collector Power Dissipation Derating	ΔP_C/°C	-2.0	mW/°C
Operating Temperature Range	T_{opr}	-20 ~ 75	°C
Storage Temperature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

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	—	μA
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=50μA, E=0.1mW/cm	—	0.25	0.4	V
Switching Time	Rise Time	t_r	V_{CC}=5V, I_C=2mA, R_L=100Ω (Fig. 1)	—	6	—	μs
	Fall Time	t_f					

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

FIG. 1 SWITCHING TIME TEST CIRCUIT



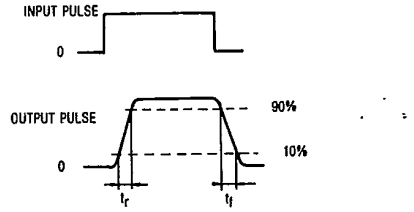
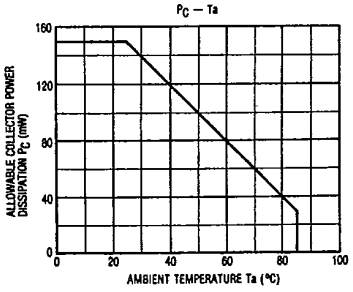


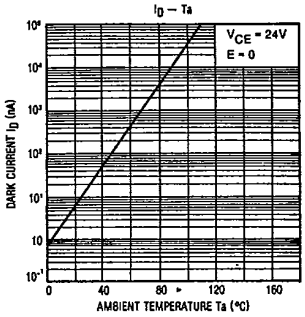
PHOTO TRANSISTOR

T-41-61

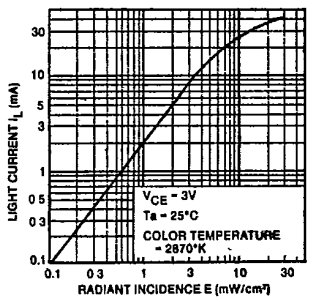
$P_C - Ta$



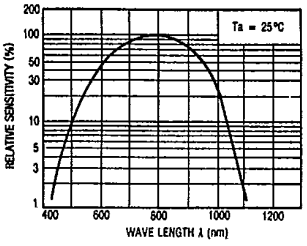
$I_D - Ta$



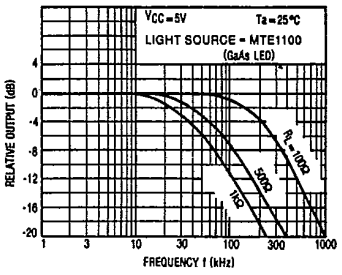
$I_L - E$



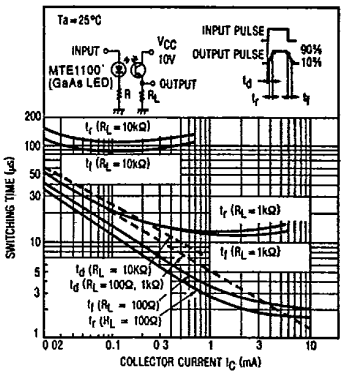
SPECTRAL RESPONSE



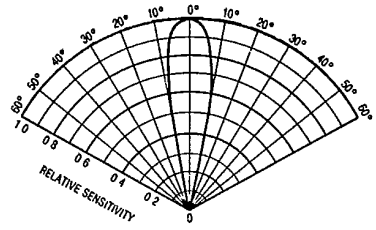
FREQUENCY CHARACTERISTICS



SWITCHING CHARACTERISTICS



RELATIVE DIRECTIONAL SENSITIVITY (Ta=25°C)



$I_L - d$

