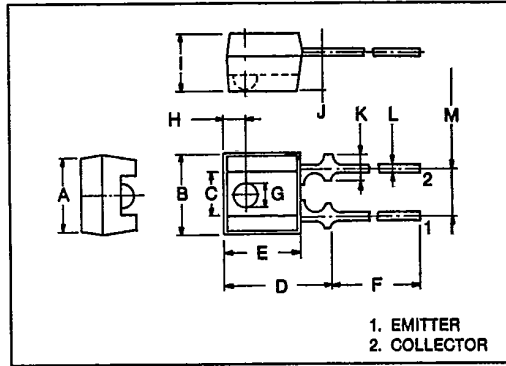


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MTD6170
SILICON NPN
EPITAXIAL PLANAR
SILICON PHOTO DARLINGTON
FOR PHOTO SENSOR

T-41-63



APPLICATIONS

- OPTICAL SWITCH
- INTERRUPTER
- TAPE, CARD READERS

FEATURES

- High sensitivity: $I_L = 1.4\text{mA}$ (Typ.)
- Spectrally and mechanically matched with IR emitter MTE1070A.
- Saturation level is compatible with MOS-IC.
- Suitable for photo interrupter assembly.
- Housing material is visible light cut one.

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(I_L)}	50	mA
Collector Power Dissipation	P _C	75	mW
Collector Power Dissipation Derating	ΔP _C /°C	-1.0	mW/°C
Operating Temperature Range	T _{opr}	-25 ~ 85	°C
Storage Temperature Range	T _{stg}	-40 ~ 100	°C

SYMBOL	INCHES	MM
A	0.157	4.0
B	0.173 ⁺⁰ / _{-0.010}	4.4 ⁺⁰ / _{-0.25}
C	0.094 ± 0.012	2.4 ± 0.3
D	0.228	5.75
E	0.159	4.05
F	0.945	24 ± 1
G	0.039	1.5
H	0.049	1.25
J	0.118 ⁺⁰ / _{-0.010}	3 ⁺⁰ / _{-0.25}
K	0.079	2.0
L	0.059	1.3
M	0.018	.045

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Dark Current	I _{D(CEO)}	V _{CE} =16V, E=0	—	30	250	nA
Light Current	I _L	V _{CE} =3V, E=0.1mW/cm ² (Note)	0.4	1.4	—	mA
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =0.2mA, E=0.1mW/cm ² (Note)	—	0.9	1.2	V
Switching Time	Rise Time	V _{CC} =5V, I _C =10mA, R _L =100Ω	—	200	—	μs
	Fall Time		—	100	—	μs

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

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