

INFRARED LED

T.41-11

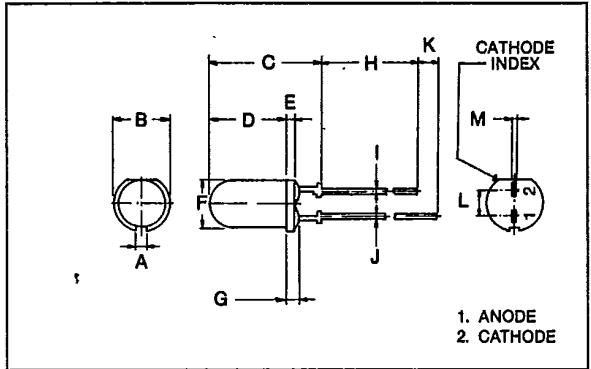
MTE1050A GaAs INFRARED EMITTER INFRARED LED FOR PHOTO SENSOR

APPLICATIONS

- REMOTE CONTROL SYSTEM
- OPTICAL SWITCH

FEATURES

- Output spectrally compatible with silicon sensor MTD7030.
- High radiant power.
- High radiant intensity: $I_E = 15 \text{ mW / sr}$ (Typ.)



SYMBOL	INCHES	MM
A	0.039	1.0
B	0.228 ± 0.008	5.8 ± 0.2
C	0.439 ± 0.008	11.15 ± 0.2
D	0.301 ± 0.008	7.65 ± 0.2
E	0.039	1.0
F	0.197 ± 0.008	5 ± 0.2
G	0.098 MAX	2.5 MAX
H	0.689 ± 0.039	17.5 ± 1
I	0.020	0.5
J	0.020	0.5
K	0.079	2.0
L	0.100	2.54
M	0.020	0.5

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	I_F	100	mA
Pulse Forward Current (Note)	I_{FP}	1	A
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	150	mW
Forward Current Derating	$\Delta I_F / ^\circ\text{C}$	-1.34	mA/ $^\circ\text{C}$
Operating Temperature Range	T_{opr}	-20 ~ 75	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-30 ~ 100	$^\circ\text{C}$

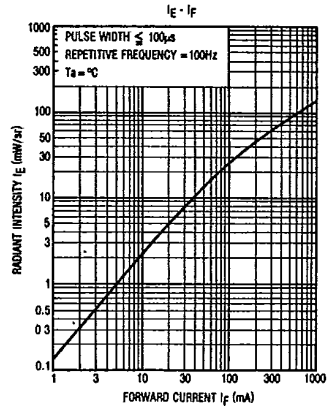
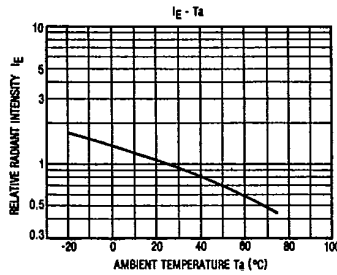
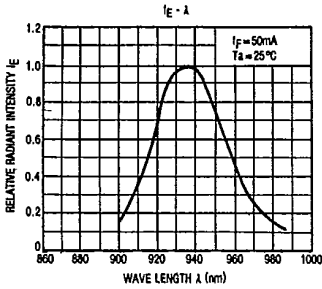
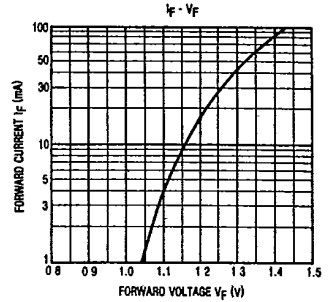
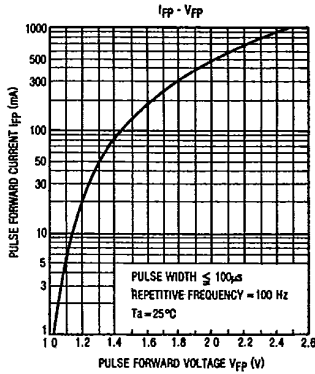
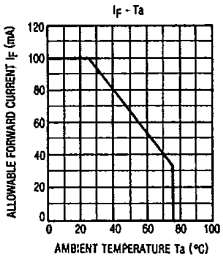
Note: Pulse width $\leq 100 \mu\text{s}$, Repetitive frequency = 100Hz.

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	$I_F = 100 \text{ mA}$	—	1.35	1.6	V
Reverse Current	I_R	$V_R = 5 \text{ V}$	—	—	10	μA
Radiant Intensity	I_E	$I_F = 50 \text{ mA}$	7	15	—	mW / sr
Radiant Power	P_O	$I_F = 50 \text{ mA}$	—	9	—	mW
Capacitance	C_T	$V_R = 0, f = 1 \text{ MHz}$	—	20	—	pF
Peak Emission Wave Length	λ_P	$I_F = 50 \text{ mA}$	—	940	—	nm
Spectral Line Half Width	$\Delta \lambda$	$I_F = 50 \text{ mA}$	—	45	—	nm

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RADIATION PATTERN ($T_a = 25^\circ C$)

