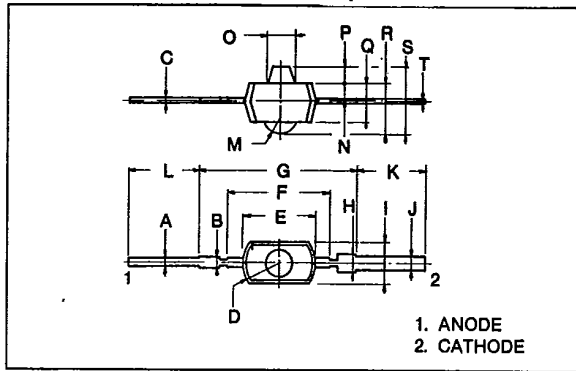


# INFRARED LED

## MTE1040 GaAs INFRARED EMITTER INFRARED LED FOR PHOTO SENSOR

T.41-11



### APPLICATIONS

- OPTICAL SWITCH
- ENCODERS
- TAPE, CARD READERS

### FEATURES

- Output spectrally compatible with silicon sensor MTD6060, MTD6050.
- High radiant power:  $P_O = 3.0\text{mW}$  (Typ.)
- Small size package.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	$I_F$	40	mA
Pulse Forward Current (Note)	$I_{FP}$	400	mA
Reverse Voltage	$V_R$	5	V
Forward Current Derating	$\Delta I_F / ^\circ\text{C}$	-0.53	mA/ $^\circ\text{C}$
Operating Temperature Range	$T_{opr}$	-20 ~ 75	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-30 ~ 80	$^\circ\text{C}$

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

SYMBOL	INCHES	MM
A	0.020	0.5
B	0.022	0.55
C	0.005	0.125
D	0.065	1.65
E	0.130	3.3
F	0.188	4.78
G	0.291	7.38
H	0.030	0.75
I	0.075	1.9
J	0.028	0.7
K	0.118 MIN	3 MIN
L	0.118 MIN	3 MIN
M	0.031	0.8
N	0.031	0.8
O	0.047	1.2
P	0.031	0.8
Q	0.070	1.77
R	0.089	2.27
S	0.121	3.07
T	0.005	0.125

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	$V_F$	$I_F = 10\text{mA}$	—	1.13	1.35	V
Reverse Current	$I_R$	$V_R = 5\text{V}$	—	—	10	$\mu\text{A}$
Radiant Power	$P_O$	$I_F = 20\text{mA}$	1.5	3.0	—	mW
Capacitance	$C_T$	$V_R = 0, f = 1\text{MHz}$	—	50	—	pF
Peak Emission Wave Length	$\lambda_P$	$I_F = 20\text{mA}$	—	940	—	nm
Spectral Line Half Width	$\Delta\lambda$	$I_F = 20\text{mA}$	—	50	—	nm

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