

SLOTTED SWITCH

T-41-73

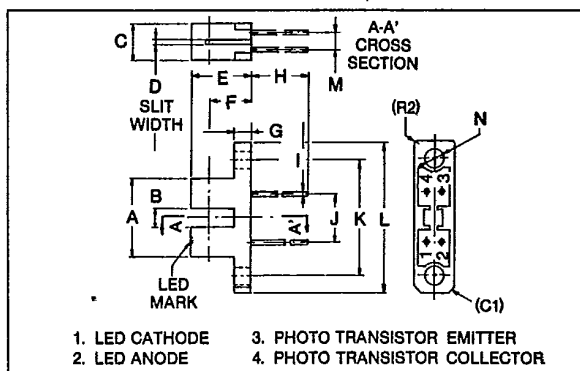
MTSS5070A INFRARED LED+PHOTO DARLINGTON

APPLICATIONS

- OPTICAL SWITCH
- SHAFT POSITION AND VELOCITY SENSOR

FEATURES

- High current transfer ratio: $I_C/I_F = 30\%$ (Min.)



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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	I_F	50	mA
Reverse Voltage	V_R	5	V
Forward Current Derating	$\Delta I_F/^\circ\text{C}$	-0.33	mA/°C
Collector-Emitter Voltage	V_{CE0}	30	V
Emitter-Collector Voltage	V_{ECO}	5	V
Collector Power Dissipation	P_C	75	mW
Collector Power Dissipation Derating	$\Delta P_C/^\circ\text{C}$	-1.0	mW/°C
Collector Current	I_C	50	mA
Operating Temperature Range	T_{opr}	-25 ~ 85	°C
Storage Temperature Range	T_{stg}	-40 ~ 100	°C

SYMBOL	INCHES	MM
A	0.512	13.0
B	0.118	3.0
C	0.244	6.2
D	0.039	1.0
E	0.394	10.0
F	0.270 ± 0.012	6.85 ± 0.3
G	0.098	2.5
H	0.709 MIN	18 MIN
I	0.018	0.45
J	0.300	7.62
K	0.748	19.0
L	0.984	25.0
M	0.100	2.54
N	0.118	3.0

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	$I_F = 10\text{mA}$	1.00	1.15	1.30	V
Reverse Current	I_R	$V_R = 5\text{V}$	—	—	10	μA
Capacitance	C_T	$V = 0, f = 1\text{MHz}$	—	30	—	pF
Capacitance	C_T	$V = 0, f = 1\text{MHz}$	—	6	—	pF
Dark Current	$I_D(I_{CE0})$	$V_{CE} = 16\text{V}, I_F = 0$	—	30	250	nA
Current Transfer Ratio	I_C/I_F	$V_{CE} = 2\text{V}, I_F = 10\text{mA}$	30	—	—	%

A - LED B - DETECTOR C - COUPLED

