

SLOTTED SWITCH

T-41-73

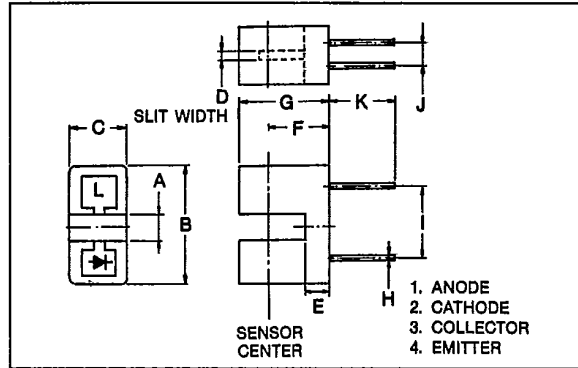
MTSS8520 INFRARED LED+PHOTO DARLINGTON

APPLICATIONS

- OPTICAL SWITCH
- SHAFT POSITION AND VELOCITY SENSOR

FEATURES

- High current transfer ratio: $I_C/I_F = 30\%$ (Min.)
- Fits standard dual in-line package socket.
- Photo detector is not sensitive for visible light disturbance.



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT	
A Forward Current	I_F	50	mA	
	Reverse Voltage	V_R	5 V	
B Collector-Emitter Voltage	V_{CEO}	30	V	
	Emitter-Collector Voltage	V_{ECO}	5 V	
	Collector Power Dissipation	P_C	75	mW
	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	0.118	3.0
B	0.512	13.0
C	0.244	6.2
D	0.039 ± 0.004	1.0 ± 0.1
E	0.098	2.5
F	0.270 ± 0.012	6.85 ± 0.3
G	0.394	10.0
H	0.018	0.45
I	0.300	7.62
J	0.100	2.54
K	0.709 MIN	18.0 MIN
L	0.039	1.0

OPTO-ELECTRICAL CHARACTERISTICS (Ta=25°C)

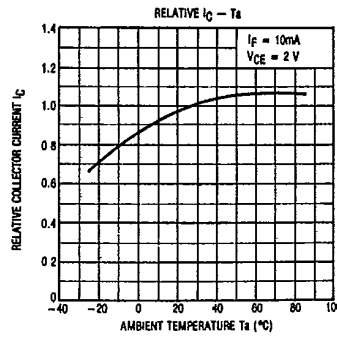
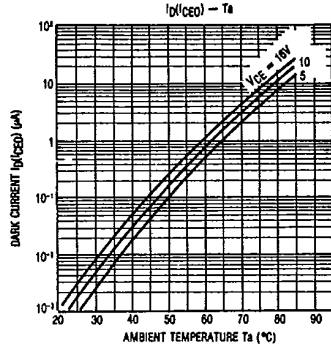
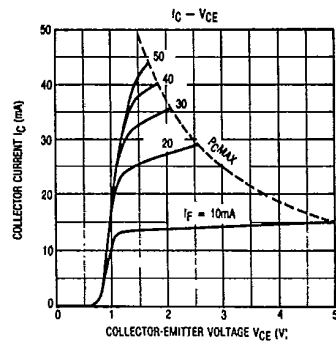
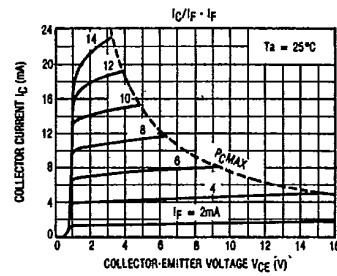
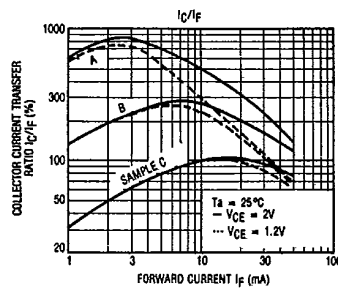
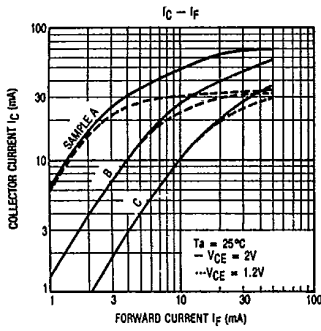
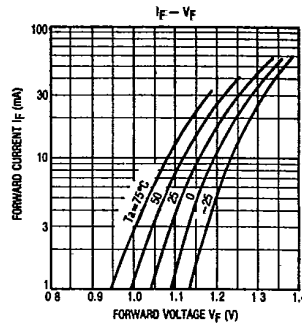
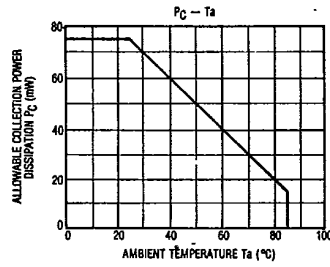
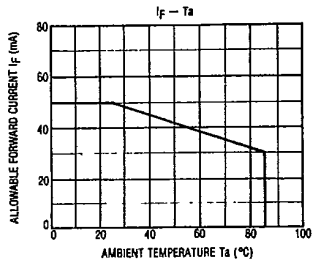
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	$I_F = 10\text{mA}$	1.00	1.15	1.30	V
Reverse Current	I_R	$V_R = 5\text{V}$	—	—	10	μA
Capacitance Between Terminals	C_T	$V=0, f=1\text{MHz}$	—	30	—	pF
B Dark Current	$I_D(I_{CEO})$	$V_{CE} = 16\text{V}, I_F = 0$	—	30	250	nA
	Capacitance Between Terminals	C_T	$V=0, f=1\text{MHz}$	—	7	—
Current Transfer Ratio	I_C/I_F	$V_{CE} = 2\text{V}, I_F = 10\text{mA}$	30	200	—	%
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_F = 10\text{mA}, I_C = 1.5\text{mA}$	—	0.85	1.2	V
Rise Time	t_r	$V_{CC} = 5\text{V}, I_C = 10\text{mA}$	—	200	—	μs
Fall Time	t_f	$R_L = 100\Omega$	—	150	—	μs

A - LED B - DETECTOR C - COUPLED



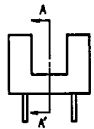
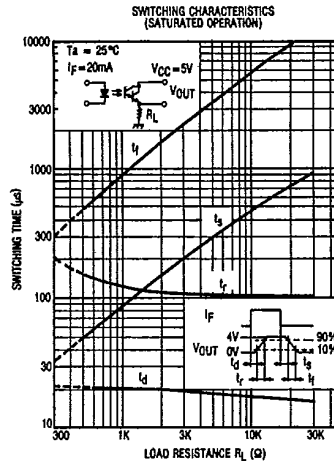
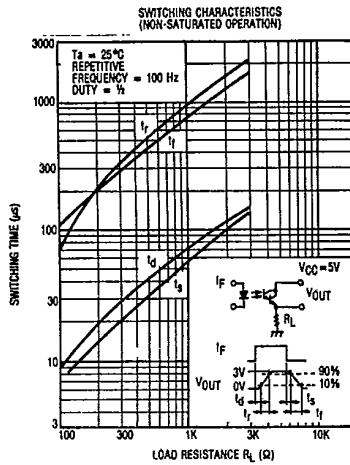
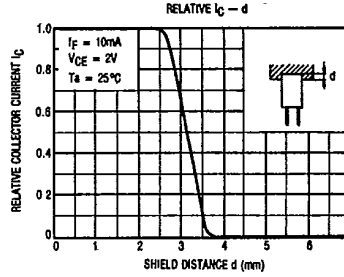
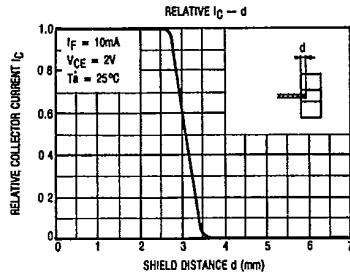
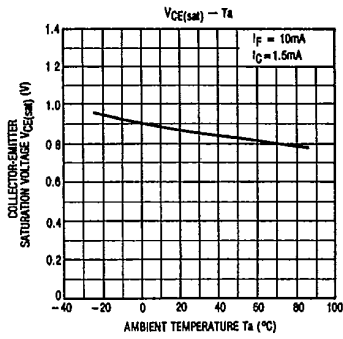
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A-A' CROSS SECTION

