ST - 1MLA · ST - 1MLB

The ST - 1MLA and 1MLB are high - sensitivity NPN silicon phototransistors mounted in TO - 18 Type header with clear epoxy encapsulation. The phototransistors have a wide angular response and relatively low - cost compared to TO - 18 can type devices.

FEATURES

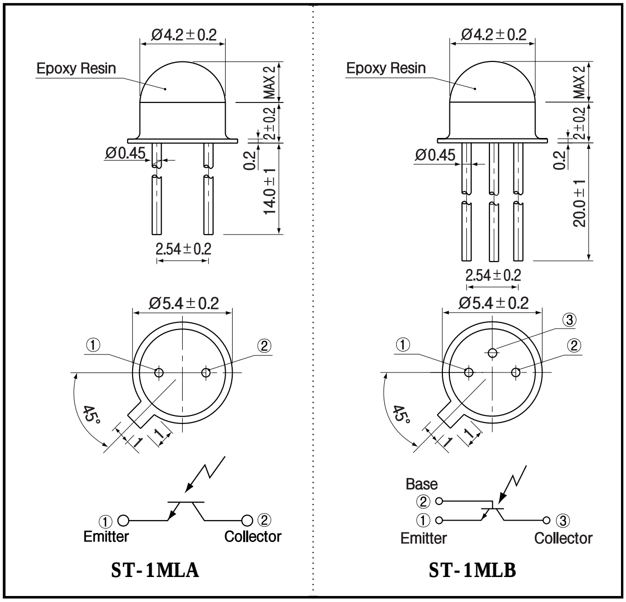
- Wide angular response
- Relatively low - cost against metal can package
- Low profile package
- Two leads (Collector, Emitter) ST - 1MLA
- Three leads (Collector, Emitter, Base) ST - 1MLB

APPLICATIONS

- Optical counters
- Infrared sensors
- Camera stroboscopes

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25℃)

Item	Symbol	Rating	Unit
C - E voltage	V_{CEO}	40	V
E - C voltage	V_{ECO}	4	V
Collector current	I_C	30	mA
Collector power dissipation	P_C	100	mW
Operating temp.	Topr.	- 25~+90	℃
Storage Temp.	Tstg.	- 30~+100	℃
Soldering temp. *1	Tsol.	260	℃

*1. For MAX.5 seconds at the position of 2 mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25℃)

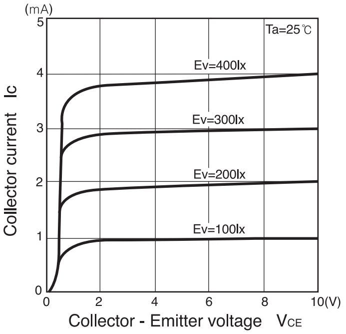
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current		I_{CEO}	V_{CEO}=10V		1	200	nA
Light current		I_L	V_{CE}=10V, 200lx *2	0.5	2.0	5.0	mA
C - E saturation voltage		V_{CE}(sat)	I_C=2mA, 2,000lx *2		0.2	0.4	V
Switching speeds	Rise time	tr	V_{CC}=10V, I_C=5mA, R_L=100Ω		8		μsec.
	Fall time	tf			10		μsec.
Spectral sensitivity		λ		500~1,050			nm
Peak wavelength		λp			880		nm
Half anglee		△θ			±70		deg.

*2. Color temp.=2856K standard Tungsten lamp

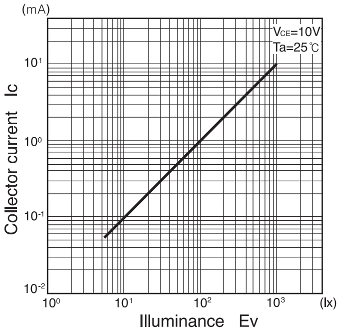
Photo transistors

ST - 1MLA · ST - 1MLB

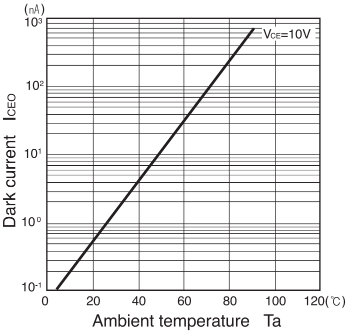
Collector current Vs. Collector - Emitter voltage



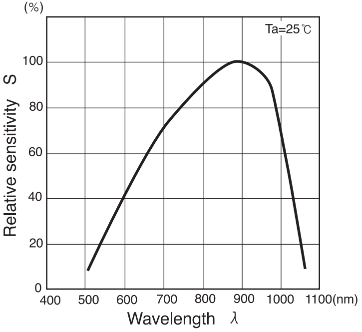
Collector current Vs. Illuminance



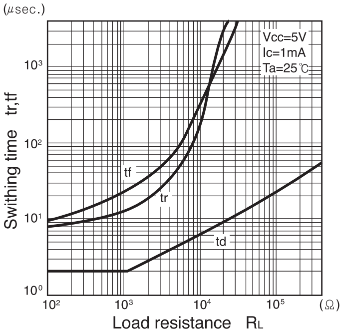
Dark current Vs. Ambient temperature



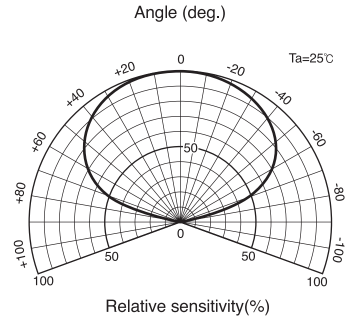
Relative sensitivity Vs. Wavelength



Swithing time vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature