

ST - 1MLAR2 · ST - 1MLBR2

The ST - 1MLAR2 and 1MLBR2 are high - sensitivity NPN silicon phototransistors mounted in a TO - 18 Type header with black epoxy encapsulation. With daylight filter the phototransistor is sensitive only to infrared rays.

FEATURES

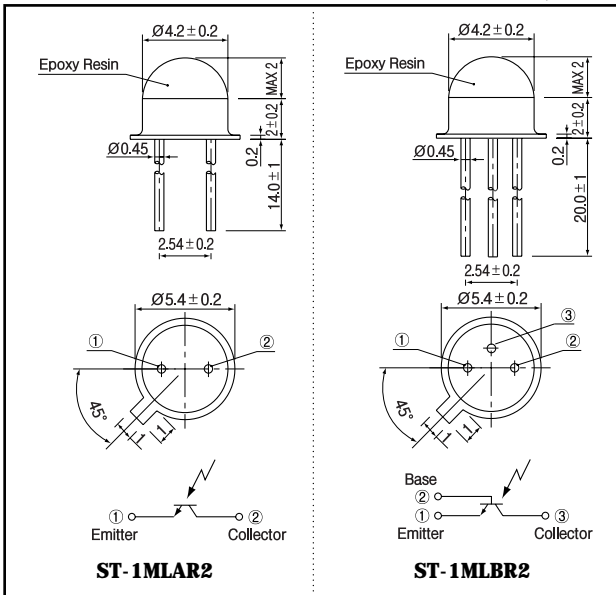
- Wide angular response
- Relatively low - cost against metal can package
- Low profile package
- With daylight filter

APPLICATIONS

- Remote control sensors
- Card readers
- Optical switches

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
C - E voltage	V _{CE0}	40	V
E - C voltage	V _{E00}	4	V
Collector current	I _c	30	mA
Collector power dissipation	P _c	100	mW
Operating temp.	T _{opr.}	- 25 ~ +90	
Storage Temp.	T _{stg.}	- 30 ~ +100	
Soldering temp. *1	T _{sol.}	260	

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

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25)

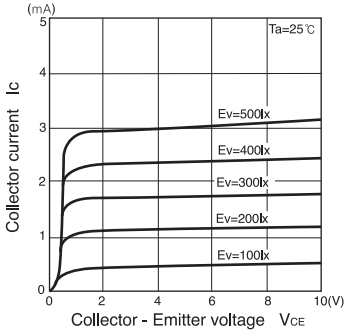
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I _{CE0}	V _{CE0} =10V		1	200	nA
Light current	I _L	V _{CE} =10V, 200lx ⁻²	0.5	1.2	5.0	mA
C - E saturation voltage	V _{CE(sat)}	I _c =2mA, 2,000lx ⁻²		0.2	0.4	V
Switching speeds	Rise time	V _{CC} =10V, I _c =5mA, R _L =100		8		µsec.
	Fall time			10		µsec.
Spectral sensitivity				720 - 1,050		nm
Peak wavelength	p			940		nm
Half angle				± 70		deg.

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

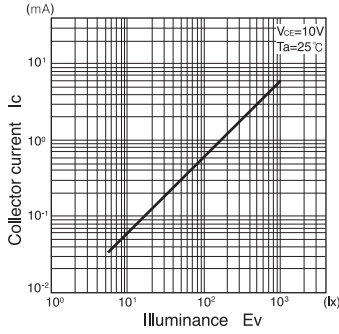
Photo transistors

ST - 1 MLAR2 · ST - 1 MLBR2

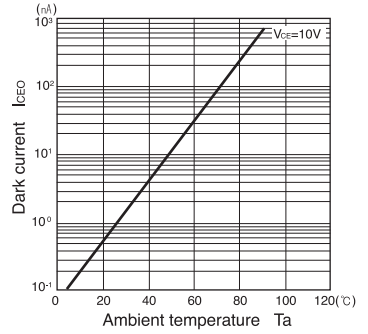
Collector current Vs. Collector - Emitter voltage



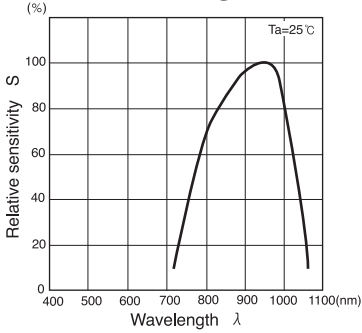
Collector current Vs. Illuminance



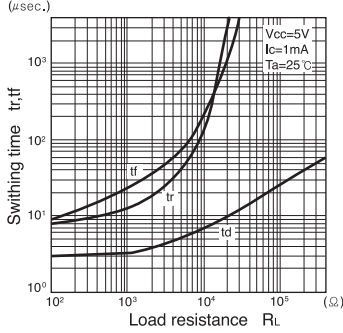
Dark current Vs. Ambient temperature



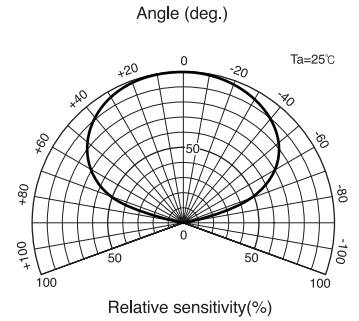
Relative sensitivity Vs. Wavelength



Switching time vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature

