문서관리실
2004. 3 31
KKC

SPECIFICATION

ISSUED DATE : Mar. 19. 2004

DOCUMENT NO. : N/P-KST1KLB-01

CUSTOMER : _____

DESCRIPTION : Photo Tr

MODEL NO. : KST-1KLB

[KODENSHI KOREA CORP.]

ISSUE DEPT.			SBU		Q/A	
ISSUE	REVIEW	APPR'L	REVIEW	APPR'L	QC	QP

[CUSTOMER APPROVAL]

ISSUE	REVIEW	APPR'L	REVIEW	APPR'L	QC	QP

[REVISION]

NO	DATE	REVISION ITEMS	ISSUED BY	APPR'D BY

Please obey the instructions mentioned below for actual use of this device.

① This device is designed for general electronic equipment.
Main use of this device are as follows;

* Computer * OA equipment * Telecommunication equipmet(Terminal)
* Measuring instrument * Machine tool *Industrial robot
* AV equipment * Home appliance,etc.

② Please take proper steps in order to maintain reliability and safety, in case this device is used for the uses mentioned below which require high reliability.

* Unit concerning control and safety of a vehicle (air plane,train,automobile etc.)
* Traffic signal * Gas leak detection breaker
* Fire box and burglar alarm box * Other safety equipment,etc.

③ Please don't use for the uses mentioned below which require extremely high reliability.

* Space equipment * Telecommunication equipment(Trunk)
* Nuclear control equipment * Medical equipment(relating to any fatal element),etc.

1. Scope

The KST-1KLB is high-sensitivity NPN silicon phototransistors mounted in durable, hermetically sealed TO-18 metal can which provides years of reliable performance, even under demanding conditions such as use outdoors.

2. Features

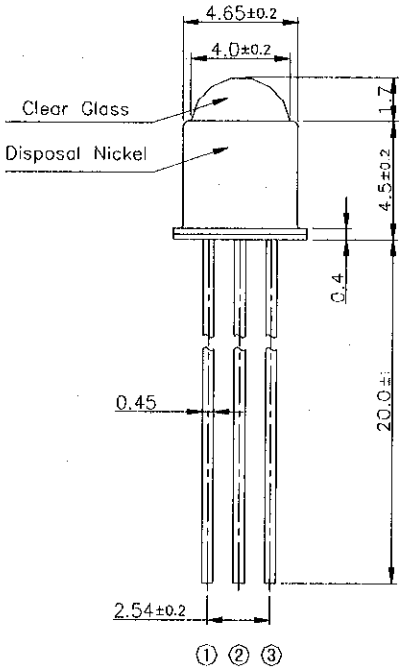
- ◆ Narrow angular response
- ◆ Durable
- ◆ High reliability in demanding environments
- ◆ Three leads (Collector, Emitter, Base)

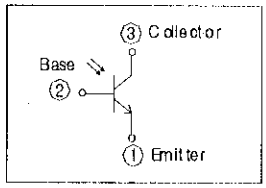
3. Applications

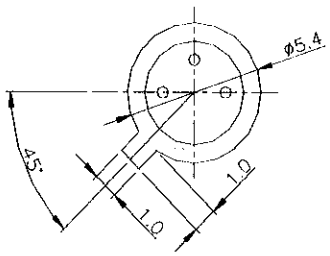
- ◆ Optical detectors
- ◆ Optical switches
- ◆ Infrared sensors
- ◆ Encoders
- ◆ Smoke detectors

4. Package Outline

See the attached Drawing No. Photo Tr-KST1KLB-OT-01







5. Absolute Maximum Ratings

[Ta = 25℃]

Item	Symbol	Ratings	Unit
C – E Voltage	Vceo	40	V
E – C Voltage	Veco	5	V
Collector temperrature	Ic	50	mA
Collector power dissipation	Pc	150	mW
Operating temperature	Topr.	-30 ~ +100	℃
Storage Temperature	Tstg.	-50 ~ +150	℃
Soldering Temperature	Tsol.	260	℃

6. Electro-optical Characteristics

[Ta = 25℃]

Item	Simbol	Condition	Min.	Typ.	MAX	Unit
Collector dark current	Iceo	Vceo = 10V			200	nA
Light current	Icel *1	Vce = 10V, 200Lux	2		18.0	mA
C–E saturation voltage	Vce(sat)	Ic = 5mA, IB = 1mA	0.3			V
Switching speeds Rise time	tr	Vcc=10V,Ic=5mA		6		μs
Switching speeds Fall Time	tf	RL=100Ω		8		μs
Spectral sensitivity	λ		450 ~ 1050			nm
Peak wavelength	λp		450	880	1050	nm
Half anglee	△θ		±15			deg.

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

7. Inspection Criteria

7-1. In electrical and optical characteristics, all products are inspected for following 3 items.

C-E Voltage : Bvceo

E-C Voltage : Bveco

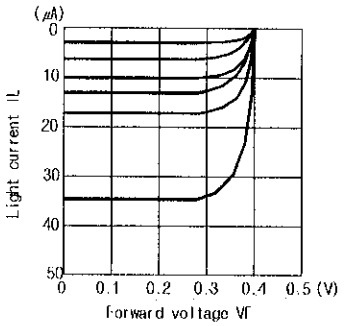
Collector Dark Current : Iceo

Light Current : Icel

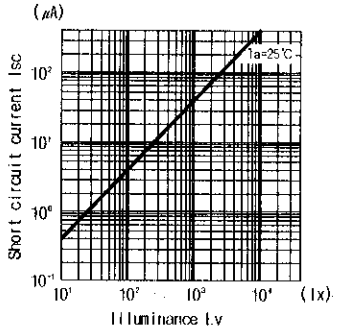
7-2. No particular inspections shall be carried out for items other than those above. However they shall satisfy the ratings.

Typical Electrical-optical Characteristics Curves

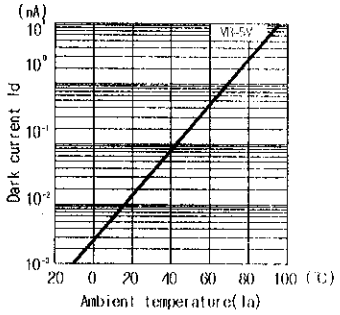
■ Light current Vs. Forward voltage



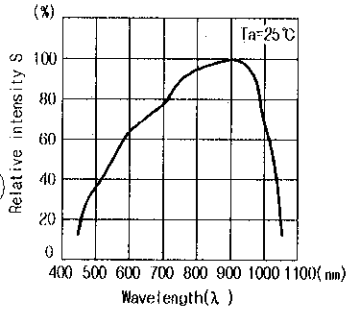
■ Short circuit current Vs. Illuminance



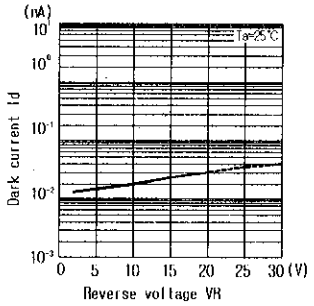
■ Dark current Vs. Ambient temperature



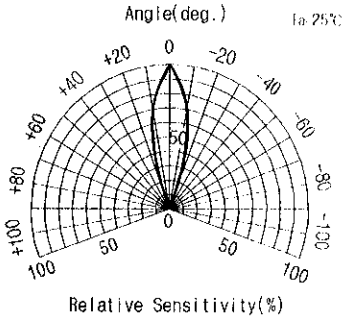
■ Relative sensitivity Vs. Wavelength



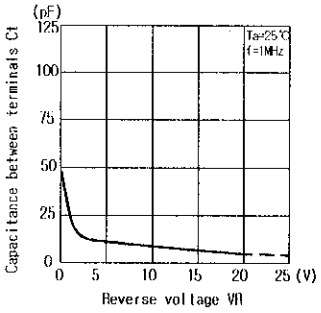
■ Dark current Vs. Reverse voltage



■ Radiant Pattern.



■ Capacitance between terminal Vs. Reverse voltage



8. Cautions in Usage

8-1. Store and use where there is no exterior force that will cause change in shape.

8-2. Store and use where there is no Hydrogen Sulfide gas, or any other corrosive gas.

8-3. The bending or cutting of the lead should be done at room temperature, no force being applied on the package.

8-4. Solder the lead pin under conditions of the absolute maximum rating chart, and do not apply force on the lead pin after soldering.

10. Guarantee Period and Scope

9-1. Period

One year after delivery to the desired place.

9-2. Scope

Replacement of products will be done, if any problems lie in our company's products. However, we are not liable for your damage by lack of caution.

11. Others

Any doubts concerning this specfication should be discussed fully by both parties.

No.	DEVICE	항목	LIMIT	COND.
99	ST-1KLAX	BVceo	40.0V↑	1mA
		BVeco Iceo Icel	4.0V↑ 70nA↓ A:1.0～2.49 B:2.5～5.49 C:5.5～9.99 D:10.0mA↑	50μA 10V 1000Lux, 3V
100	ST-1KLAZ	BVceo BVeco Iceo Icel	40.0V↑ 4.0V↑ 200nA↓ 4.0mA↑	0.5mA 50μA 10V 500Lux, 10V
101	ST-1KLB	BVceo BVeco BVcbo Iceo Icel	40.0V↑ 4.0V↑ 55.0V↑ 200nA↓ A:1.8～4.0 B:3.2～4.4 C:3.6～5.3 D:4.3～6.6 E:5.4～7.5 G:6.1～13.0 H:10.8mA↑	1mA 50μA 50μA 10V 200Lux, 10V
102	ST-1MLAR2	BVceo BVeco Iceo Icel	40.0V↑ 4.0V↑ 200nA↓ A:0.5～1.3 B:1.1～1.8 C:1.4～2.2 D:1.8～2.4 E:2.0mA↑	1mA 50μA 10V 200Lux, 10V
103	ST-1MLAZ	BVceo BVeco Iceo Icel	40.0V↑ 4.0V↑ 200nA↓ 1.5mA↑	0.5mA 50μA 10V 500Lux, 10V
104	ST-1MLB	BVceo BVeco BVcbo Iceo Icel	40.0V↑ 4.0V↑ 55.0V↑ 200nA↓ A:0.6～1.3 B:1.1～2.2 C:1.8～3.1 D:2.5mA↑	1mA 50μA 50μA 10V 200Lux, 10V