

SPECIFICATION

ISSUED DATE : 2015. 09. 21

DOCUMENT NO : KPDC-KEL3894S-01

CUSTOMER :

DESCRIPTION : 940nm IrED

MODEL NO. : KEL3894S

[AUK CORP.]

ISSUE DEPT.			PRODUCTION		Q/A	
ISSUE	REVIEW	APPR'L	REVIEW	APPR'L	REVIEW	APPR'L

[CUSTOMER APPROVAL]

ISSUE	REVIEW					

[REVISION]

NO	DATE	REVISION ITEMS	ISSUED BY	APPR'D BY
01	15.09.21	Issue	EC. Jung	HJ.Lee

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AUK takes no responsibility for damage caused by improper use of the devices which does not meet the conditions and absolute maximum ratings to be used specified in the relevant specification sheet.

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. Description

The KEL3894S is GaAIAs infrared emitting diode that is designed for high power, low forward voltage. This device is optimized for speed and efficiency at emission wavelength 940nm and has a high radiant efficiency over a wide range of forward current.

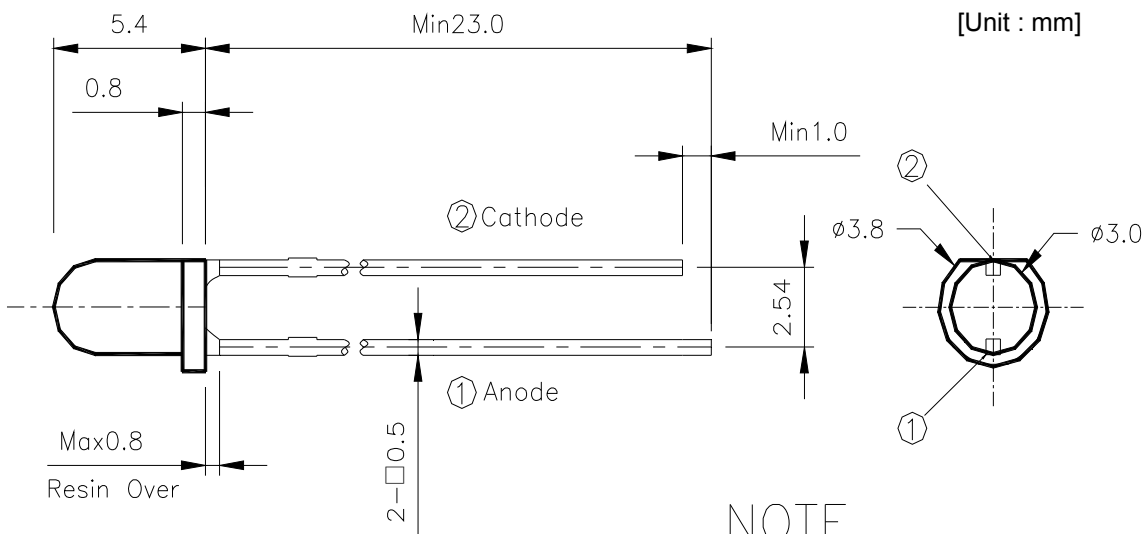
2. Features

- ◆ 940nm wavelength
- ◆ High power and high reliability
- ◆ Available for pulse operating

3. Applications

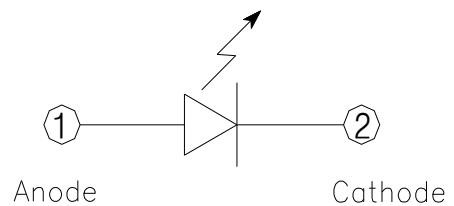
- ◆ Remote Control
- ◆ IR Communication
- ◆ Optical Switch
- ◆ Available for Wireless Digital Data Transmission

4. Package Outline



NOTE

1. GENERAL TOLERANCE : ± 0.2
2. THICKNESS : 0.5mm
3. PIN CONFIGURATION



5. Absolute Maximum Ratings

[Ta=25°C]

Parameter	Symbol	Rating	Unit
Power Dissipation	P_D	80	mW
Forward Current	I_F	60	mA
Pulse forward current *1	I_{FP}	0.8	A
Reverse Voltage	V_R	5.0	V
Operating Temperature *2	$T_{opr.}$	-20 ~ +70	°C
Storage Temperature *2	$T_{stg.}$	-30 ~ +80	°C
Soldering Temperature *3	$T_{sol.}$	240	°C

*1. Duty ratio=1/100, pulse width=0.12ms

*2. No Icebound or dew

*3. For Max.5seconds at the position of 2mm from the package

6. Electro-Optical Characteristics

[Ta=25°C]

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Forward voltage	V_F	$I_F=50mA$		1.3	1.5	V
Reverse current	I_R	$V_R=5V$			10	μA
Radiant intensity *4	I_e	$I_F=40mA$		20		mW / sr
		$I_F=50mA$		22		
Peak emission wavelength	λ_p	$I_F=50mA$		940		nm
Spectral bandwidth 50%	$\Delta\lambda$	$I_F=50mA$		45		nm
Capacitance	C_t	$f = 1MHz$		20		pF
Half angle	$\Delta\theta$	$I_F=50mA$		± 18		deg.

*4. We need to re-discuss for I_e (Radiant intensity) Spec' & I_e Rank

7. Inspection Criteria

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

Forward Voltage : V_F Reverse Current : I_R Radiant Intensity : I_e

7-2. No particular inspections shall be carried out for items other than those above.

However they shall satisfy the ratings.

8. Caution On Usage

- 8-1. Store and use where there is no exterior force that will cause change in shape etc.
- 8-2. Store and use where is no Hydrogen Sulfide gas, or any other corrosive gas.
- 8-3. The bending or cutting of the lead should be done in room temperature and no force applied on the package.
- 8-4. Solder the lead pin under the conditions of the characteristics chart, and do not apply force on the lead pin after soldering.

9. Guarantee Period And Scope

- 9-1. Period
1 year after shipment to desired place.
- 9-2. Scope
A replacement of products will be carried out if the problem lies in our company's product.
However, we are not liable for your damage due to lack of caution.

10. Others

- 10-1. Any doubts concerning this specification should be discussed fully by both parties.

11. Technical Characteristics

Attachment

