BRIGHTEK

BRIGHTEK (EUROPE) LIMITED

Brighten Up The World With LED !

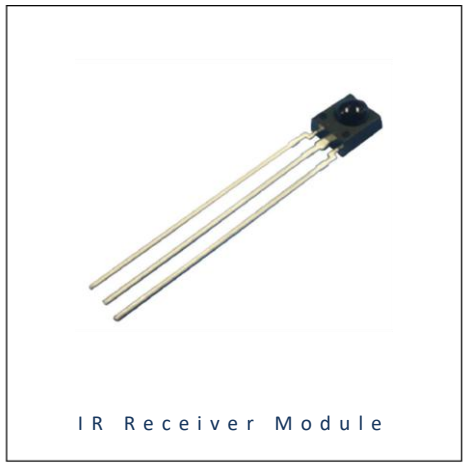
ISO/TS 16949:2009 BS EN ISO 14001:2004 QC 080000 IECQ HSPM

PRODUCT DATASHEET

- PTH/THT Receiver for Infrared Remote Control
- 38kHz Carrier Frequency

Release Date: 13 February 2025 Version: A1.1

N0S69L30SV



IR Receiver Module

IR Receiver Module

RoHS Compliant

FEATURES:

- Operating supply voltage 2.7-5.5V (min. 2.0V).
- Low current consumption (Typ. 330uA@3V).
- Maximum interference safety against VCC & light noise.
- Suitable for minimum burst length of 10 pulses per burst.
- Continuous (<1ms pause time) and sony 20bit codes are acceptable.
- No external components necessary.
- Internal filter for a high frequency lighting fluorescent lamp.
- Output active low.
- Carrier frequency 38khz.

APPLICATIONS:

- Infrared applied system.
- Light detecting portion of remote control.
- AV instruments such as Audio, TV, VCR, CD, MD, etc.
- CATV set top boxes.
- Other equipment with wireless remote control.
- Home appliances such as Air-conditioner, Fan, etc.
- Multi-media Equipment.

FEATURES:

N0S69L30SV is a miniaturized infrared receiver for remote control and other applications requiring improved ambient light rejection. The separate PIN diode and preamplifier IC are assembled on a single lead frame. The epoxy package contains a special IR filter.

This module has excellent performance even in disturbed ambient light applications and provides protection against uncontrolled output pulse.

CHARACTERISTICS:

Absolute Maximum Characteristics (T_a=25°C)

Parameter	Symbol	Ratings	Unit
Supply Voltage	V_{CC}	6.0	V
Operating Temperature	T_{OPR}	-20~+85	°C
Storage Temperature	T_{STG}	-40~+85	°C
Soldering Temperature	T_{SOL}	260 for 5s	°C

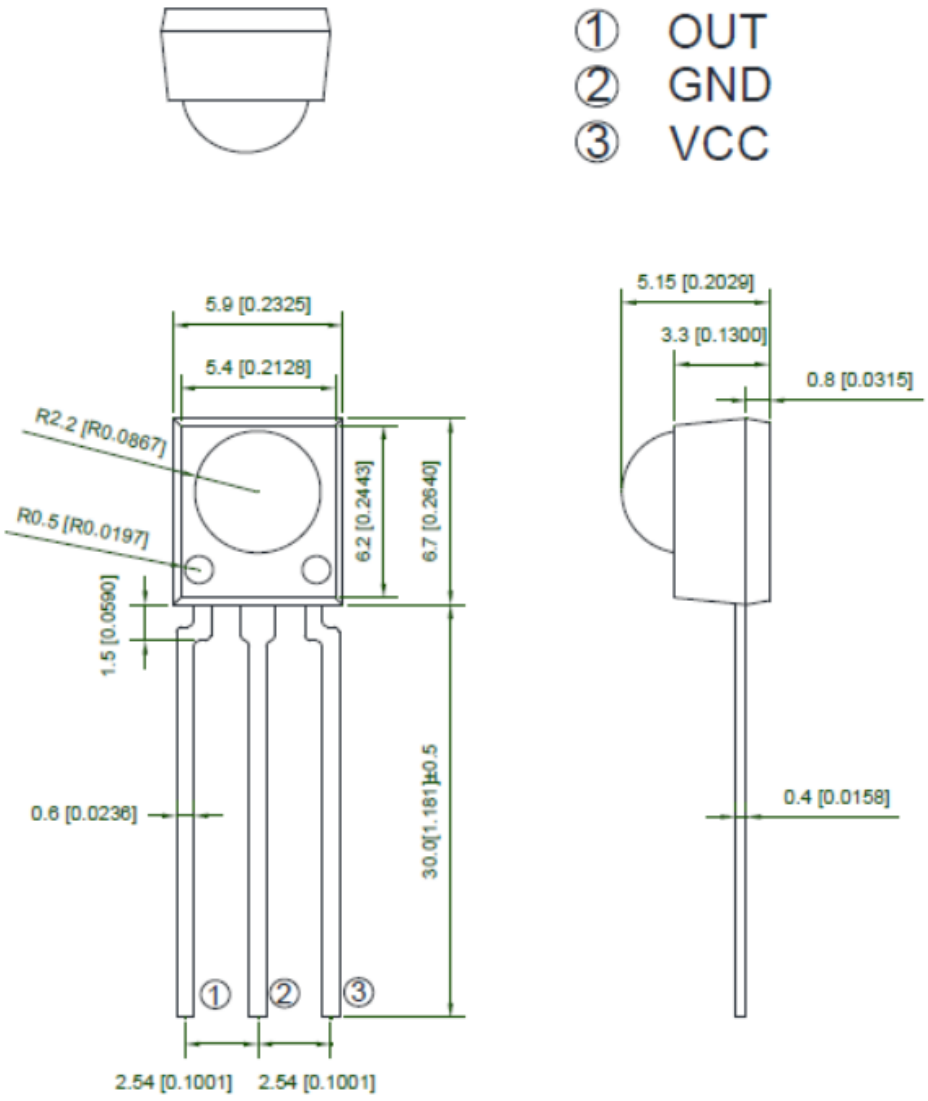
Electrical & Optical Characteristics (T_a=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
DC Supply Voltage	V_{CC}	2.7	---	5.5	V	---
Supply Current	I_{CC}	---	0.35	0.7	mA	V_{CC}=5V; no signal input
		---	0.35	0.7		V_{CC}=3V; no signal input
B.P.F Centre Frequency	F_O	---	38	---	KHz	---
Peak Wavelength	Λ_P	---	940	---	nm	---
Reception Distance	L_0	20	---	---	m	At the ray axis *
	L_{45}	10	---	---		
Half Angle (Horizontal)	θ_h	---	45	---	deg	At the ray axis *
Half Angle (Vertical)	θ_v	---	45	---		
High Level Pulse Width	T_H	400	---	800	μs	At the ray axis **
Low Level Pulse Width	T_L	400	---	800		
High Level Output Voltage	V_H	4.5	---	---	V	V_{CC}=5V
		2.5	---	---		V_{CC}=3V
Low Level Output Voltage	V_L	---	0.2	0.4	V	---

1. * The ray receiving surface at a vertex and relation to the ray axis in the range of θ=0° and θ=45°.
2. ** A range from 30cm to the arrival distance. Average value of 50 pulses.

OUTLINE DIMENSION:

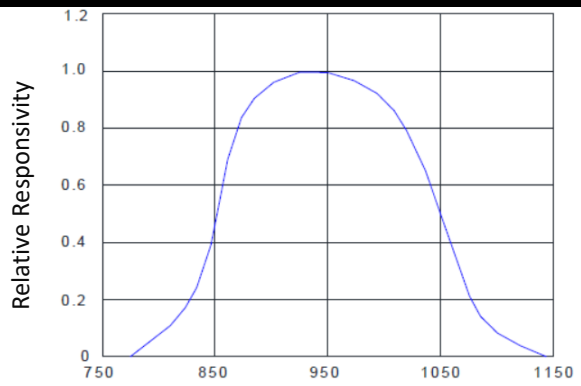
Package Dimension:



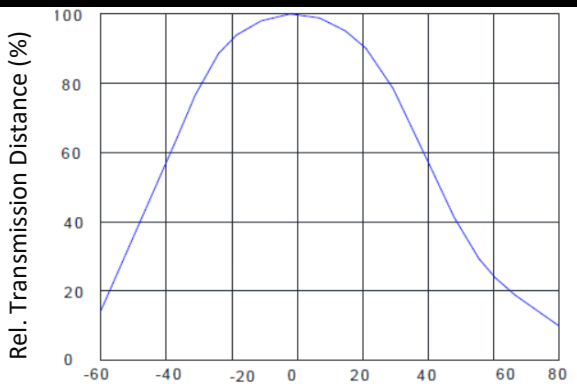
1. All dimensions are in millimetre (mm).
2. Tolerance ±0.3mm, unless otherwise noted.

ELECTRO-OPTICAL CHARACTERISTICS:

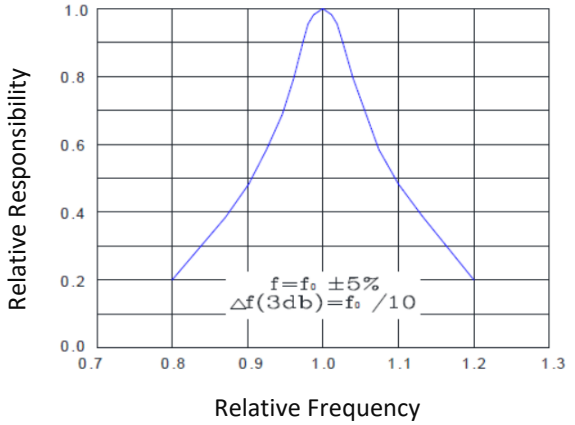
Relative Sensitivity v.s. Wavelength



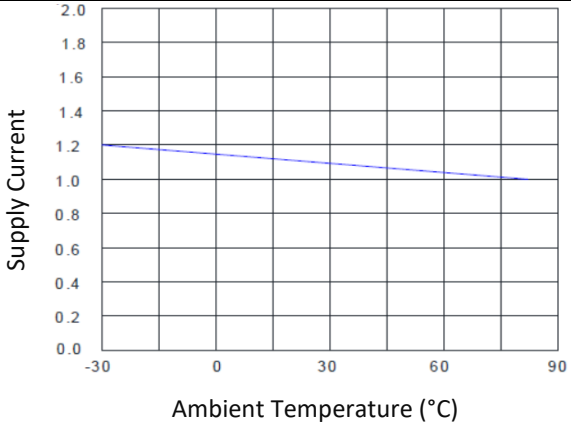
Transmission Distance v.s. Direction



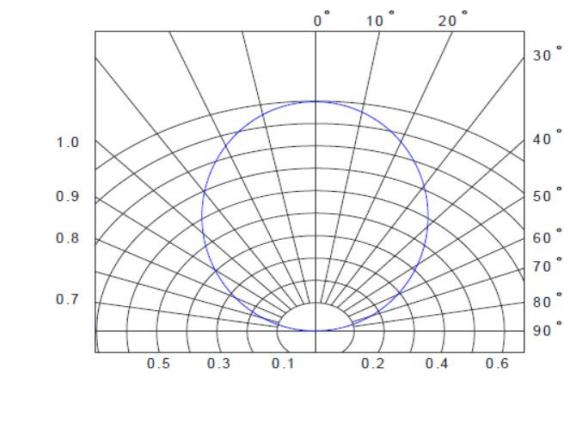
Frequency Dependence of Responsivity



Supply Current v.s. Ambient Temperature

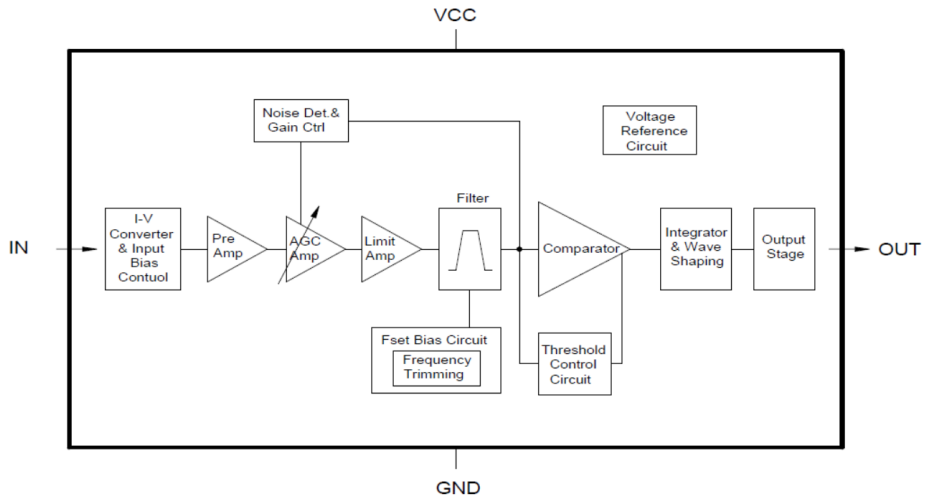


Transmission Distance v.s. Direction

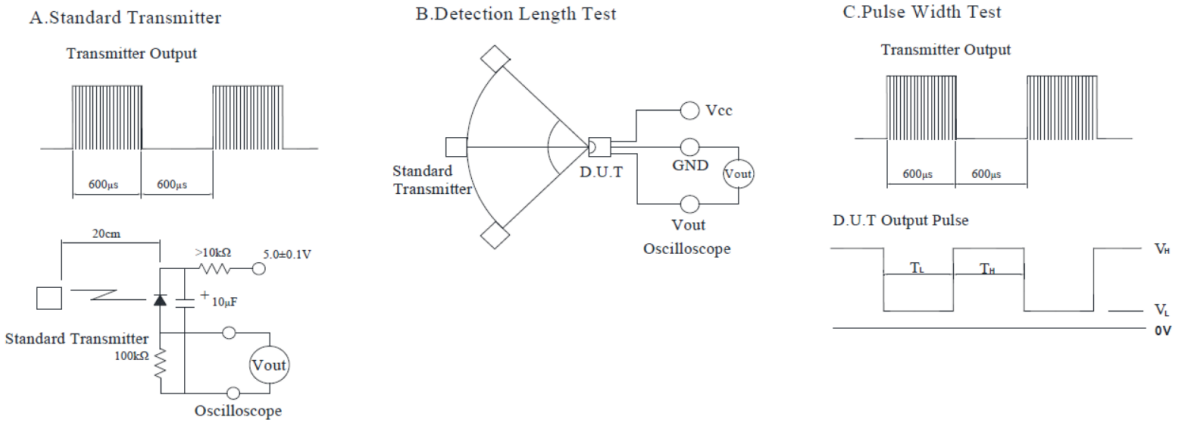


TECHNICAL DATA:

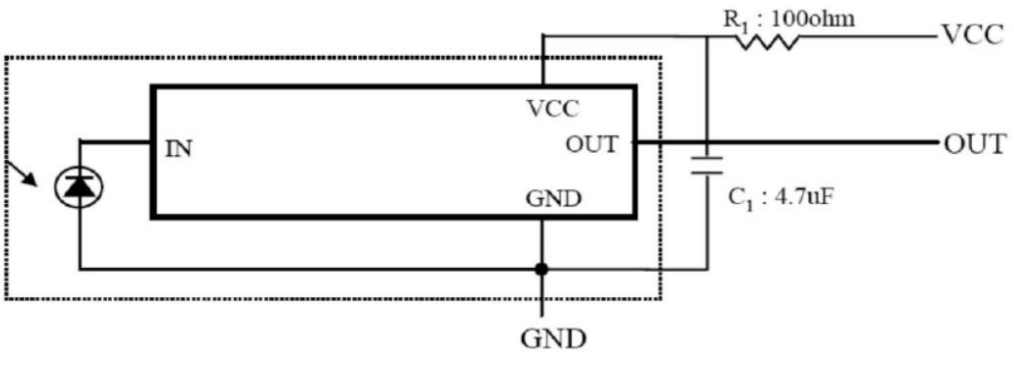
Function Block Diagram:



Test Method:



Application Circuit:



Acceptable Code List:

Data format	Code acceptable
NEC	O
RC5_Philips	O
RC6_Philips	O
RCA_Thomson	O
Toshiba	O
Sharp	O
Sony 12 Bit	O
Sony 15 Bit	O
Sony 20 Bit	O
Matsushita	O
Mitsubishi	O
Zenith	O
JVC	O
Continuous code	O
High Data Rate code	X

Acceptable Code List:

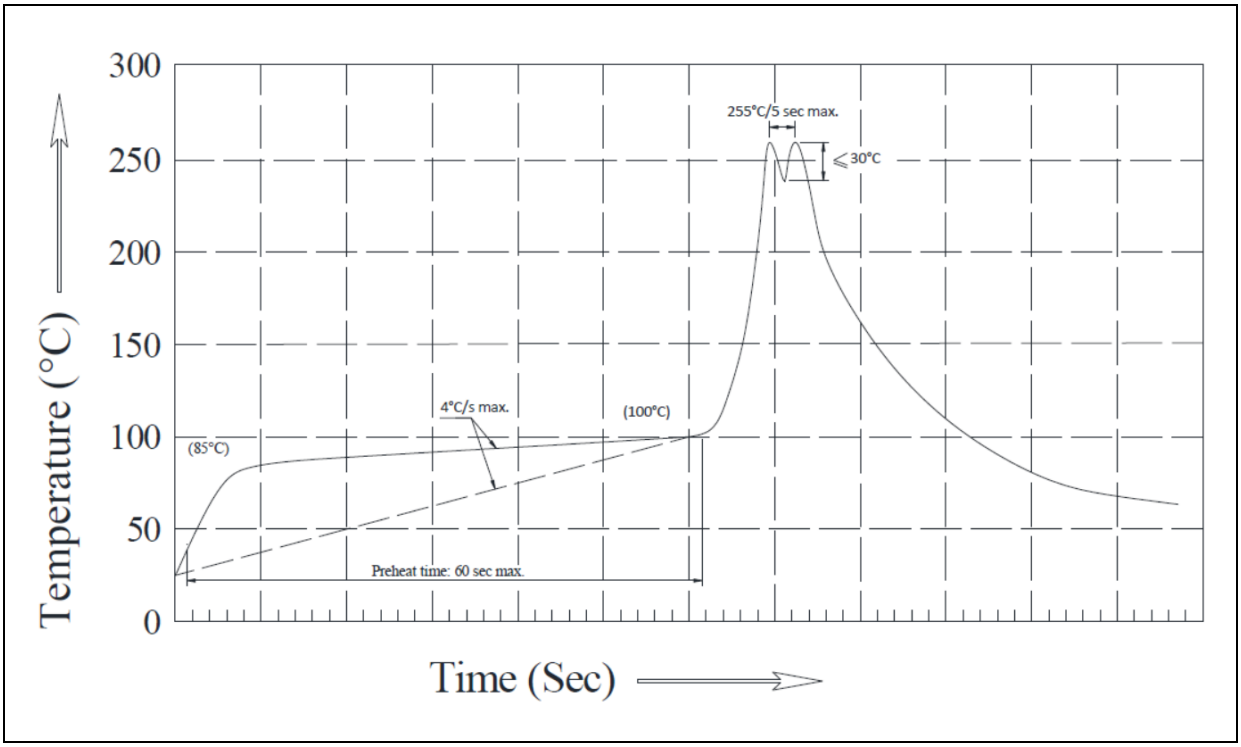
Parameter	Reference
Min. Burst Length	13burst(350usec)
Min. Burst Gap Time	13burst(350usec)
Minimum Pause Time of Total Frame	Min. 3msec for RCA Code Actually do not need the Pause time

RECOMMENDED SOLDERING PROFILE:

Hand Solder (Solder Iron):

- Temperature at tip of iron: 300°C Max.
- Soldering Time: 3 seconds ± 1 sec.
- One time only.

Wave Soldering:



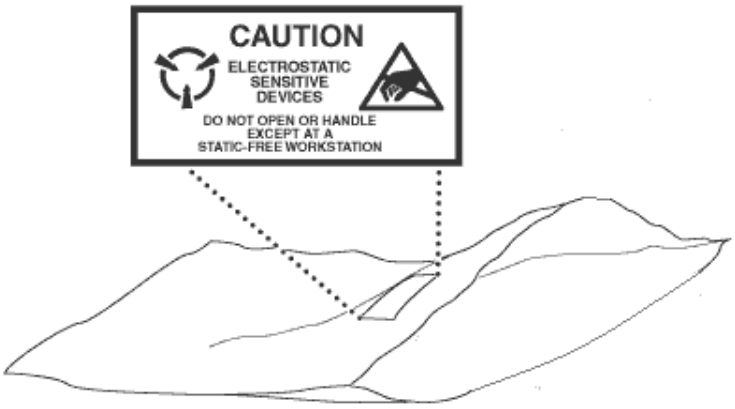
Note:

1. Recommend pre-heat temperature of 105° C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the
2. solder wave with a maximum solder bath temperature of 260°C.
3. Peak wave soldering temperature between 245~255°C for 3 sec (5 sec max).
4. Do not apply stress to the epoxy resin while the temperature is above 85°C.
5. Fixtures should not incur stress on the component when mounting and during soldering process.
6. SAC 305 solder alloy is recommended.
7. No more than one wave soldering pass.

PACKING SPECIFICATION:

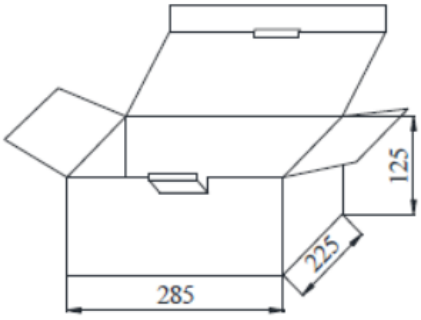
Reel Dimension:

Max.500pcs/Bulk

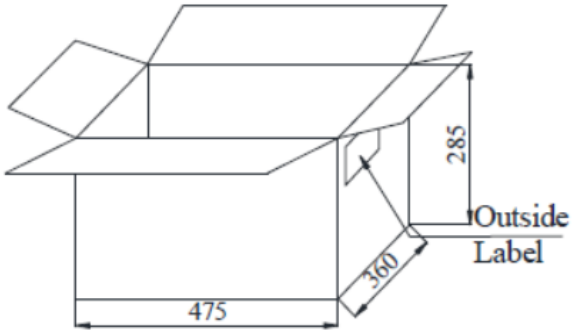


8000pcs/Inner Box; 28000pcs/Outer Box

Inner Box



Outside box



PRECAUTIONS OF USE:

Storage:

It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 months at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within a year. Otherwise, they should be kept in a damp-proof box with descanting agent <10% R.H. and apply baking before use.

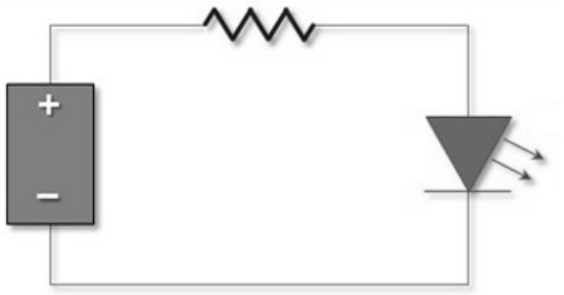
Baking:

It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs. The suggested baking conditions are as followings:

- 60±5°C x 24hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light yellow) after baking in process.

Testing Circuit:



Must apply resistor(s) for protection (over current proof).

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED carrier / package. Avoid putting any stress force directly on to the LED lens.

ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handing the LED all time. All devices, equipment, machinery, work tables, and storage racks must be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	05/08/2017	Datasheet set-up.
A1.1	13/02/2025	New datasheet format.