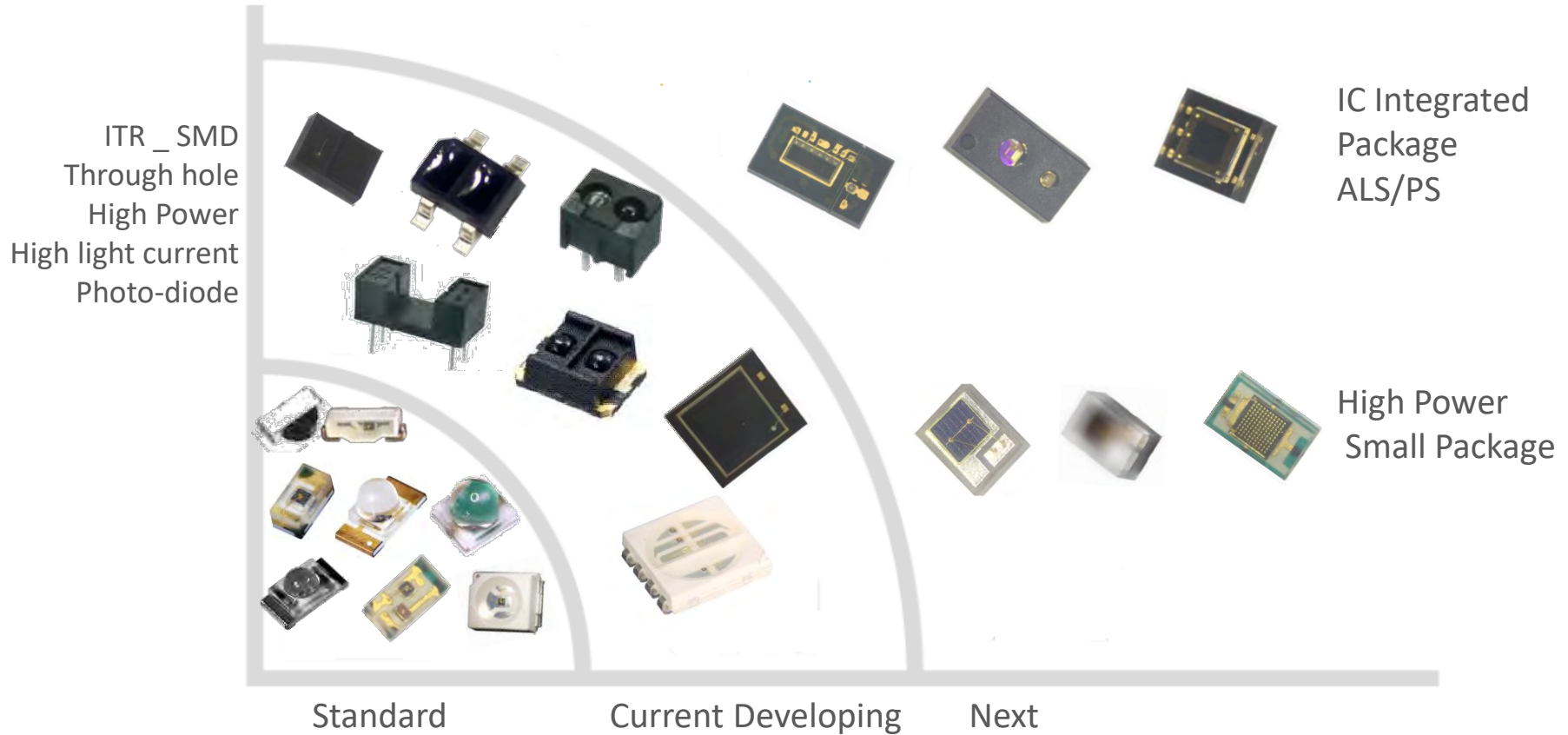


HARVATEK
Infrared Series

THE GLOBAL
TECHNOLOGY
LEADER
SMD LED

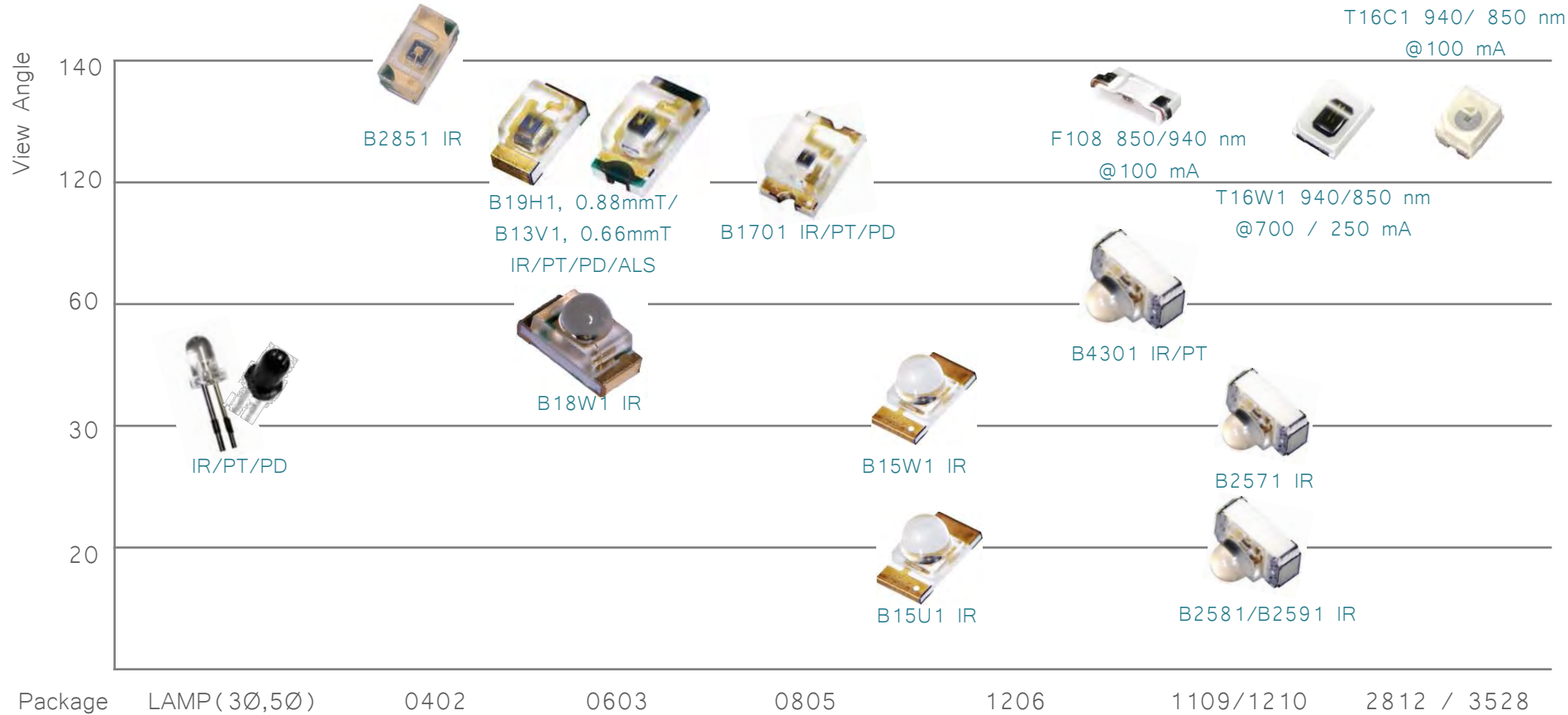
2019-2021 PRODUCT ROADMAPS



H A R V A T E K C O R P O R A T I O N

INFRARED STANDAD PRODUCTS

OUR STANDARDS—SMD/ THT



SMD Interrupters

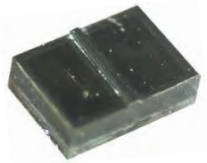
4.6*3.4*1.62 mm | 1.9*1.4*0.65 mm

Characters Top View | ITR

Application Printer, Camera, Distance Detector, Object Detector



Series	Vce(V)	I _{C(ON)} (mA)	Forward Voltage (Vf)	IF(mA)
		Typ.	Typ.	
T4642PTIR	5	0.27	1.2	20



Series	Vce(V)	I _{C(ON)} (mA)	Forward Voltage (Vf)	IF(mA)
		Typ.	Typ.	
B4192PTIR	5	0.25	1.25	20



Series	Vce(V)	I _{C(ON)} (mA)	Forward Voltage (Vf)	IF(mA)
		Typ.	Typ.	
B4262PTIR	5	0.3	1.24	4

Under Development

Interrupter Applications

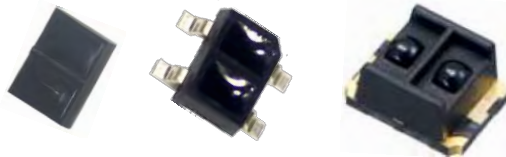
Direct Type



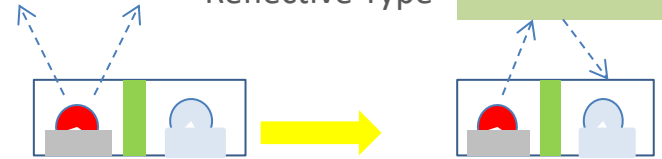
Front/Top/Back Door Detection

HV-21S130100-S11C
Gap: 5mmHV-21S140100-S11C
Gap: 5mm

Paper Feeding Size Detection

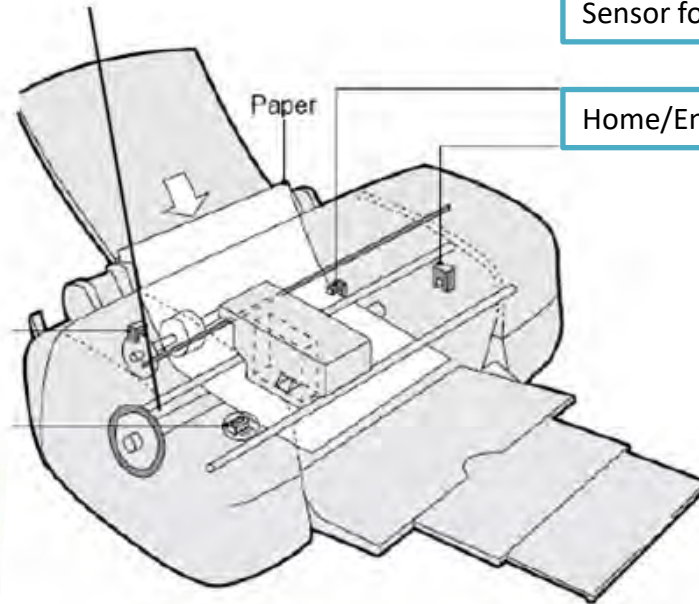


Reflective Type



Sensor for Paper Feed

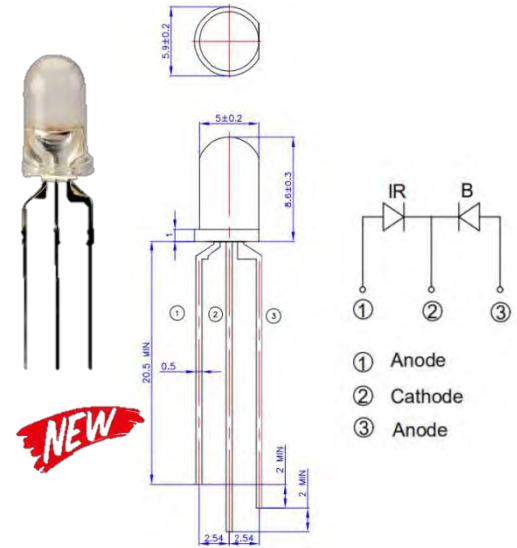
Home/End Position Sensor for Cartridge

HV-21S130100-S11C
Gap: 5mmHV-21S140100-S11C
Gap: 5mm

Emitter Solutions

Characters THT Lamp | 5Ø IR Emitter

Application Smoke Detector, Remote Control, Distance Sensor



Series	Wp (nm)	Forward Voltage (V)		Ie (mW/sr)		View angle	IF (mA)
	Typical	Min	Max	Min	Typ	2Ø1/2	
HV-94I5033-L50-E0306	940	1.2	1.6	7.5	19	30°	20
Dual Emitter Series IR+NB HV-BI23309C-E0000	IR: 940 NB: 468	IR: 1.3 NB: 3	IR: 3.6 NB: 3.6	IR: 5 mW/sr NB: 500 mcd	IR: 15mW/sr NB: 800 mcd	20°	20

NEW

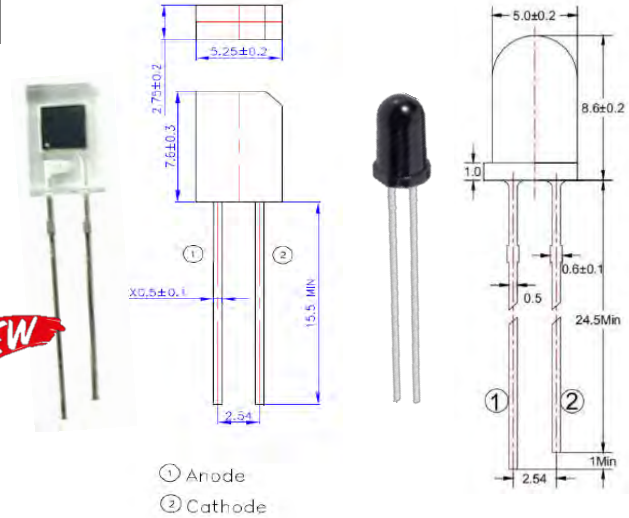
Receiver Solutions

Characters THT Lamp | 5Ø PD

Application Smoke Detector, Remote Control, Distance Sensor

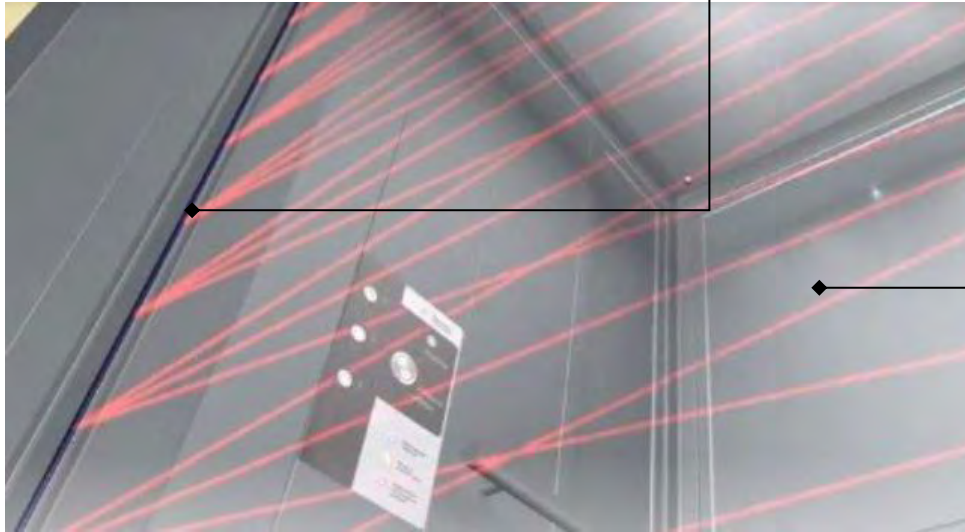


NEW



Series	Size	Sensitivity wavelength	BVR (V)	I _L (uA)	I _L (uA)	I _D (nA)
		nm	Min	Min	Typ	Max
HV-1203303B-L6-E0306	5(L)x7.6(W)x8.6(H)mm	940	32	15	30	30
NEW Square Lamp HV-CPD00WCKHE000	5.25(L)x2.75(W)x7.6(H)mm	940	32	10	18	30

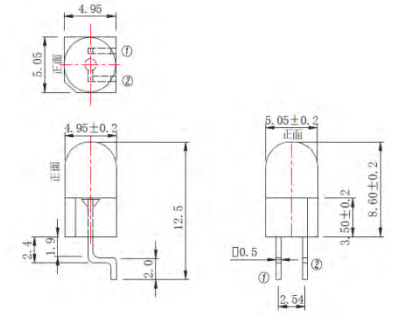
Elevator / Automatic Doors/ Light Curtain



◆ SMD Infrared Emitter Lamp

HV-94I5F82T

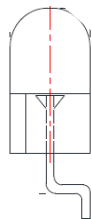
5.0mm Round Lamp, 8.6mm Lens.
940nm Infrared Emitter



HV-1205F83B

5.0mm Round Lamp, 8.6mm Lens
4mm Black Transparent PhotoDiode Chip

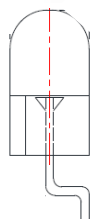
Product Specification



Series	Dimension (LxWxH mm)	Radiant Intensity		Viewing Angle	Peak Wavelength
		IF = 50mA	IF = 100mA		
HV-94I5F82T	5 Ø	Typ 42 mW/sr	Typ 75 mW/sr	30°	940 nm



① Anode
② Cathode



Series	Dimension (LxWxH mm)	Open Circuit Voltage	Reverse Light Current	Rise /Fall Time	Peak Wavelength
		Ee=5mw/cm2 $\lambda_p=940\text{nm}$	Ee=1mw/cm2 $\lambda_p=940\text{nm}$ VR=5V	VCE=5V RL=100Ω	
HV-1205F83B	5 Ø	0.39V	5 uA	45 nS	940 nm

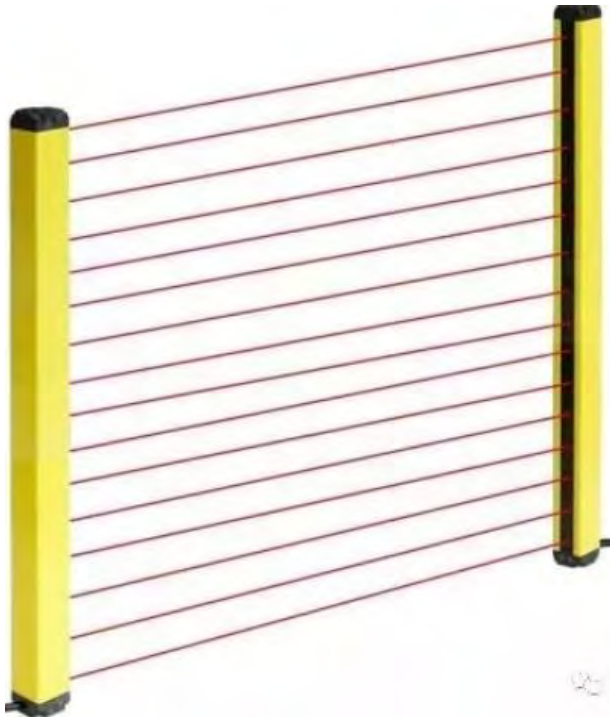


① Anode
② Cathode

SMD Interrupters

Features: Narrow Angle / SMD Device / Long Distance Detection

Application: Elevator / Automatic Doors/ Light Curtain



Overall Applications

Smoke Detector



Water Meter



Toy Car



Remote Control



Fingerprint Lock

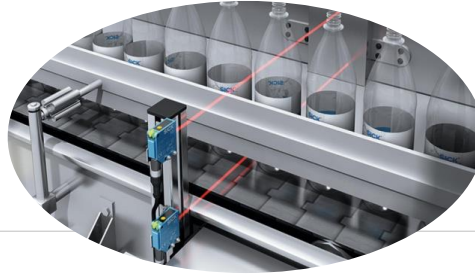


Printer



Overall Applications

Industrial Sensor



Drone Sensor



Ticket Machine



Electricity Meter



Cleaning Robot



H A R V A T E K C O R P O R A T I O N

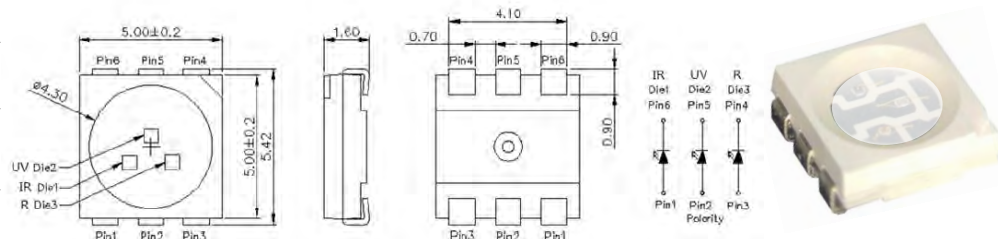
INFRARED NEW PRODUCTS

5050 Package

T3A83RURP

5.4*5.0*1.6mm / IFP Peak Forward Current

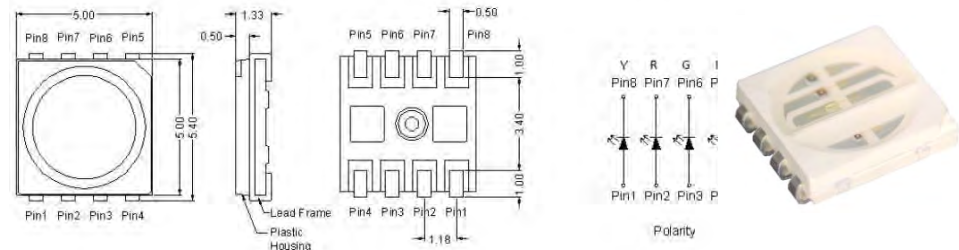
Red:		610-630 nm / 50mA
UV:		405 - 420 nm / 50mA
Infrared:		820 - 850 nm / 200mA



T3AC4

5.4*5.0*1.33mm / IFP Peak Forward Current

Red:		640-655 nm / 40 mA
Yellow:		585 - 595 nm / 50 mA
Green:		520 - 530 nm / 20 mA
Infrared:		840 - 855 nm / 100 mA



APPLICATIONS

LED Beauty Mask



LED Skin Therapy



Hair Grow Comb



Plant Grow Light



1412 Package

1412 3.6*3.2*3.4 mm

Characters Top View | Narrow Angle | High Intensity

Application Speed Detector | Aesthetic Medicine | Personal Care



Series	λ_p (nm)	Forward Voltage (Vf)	Radiant Intensity (mW/sr)	Viewing Angle	Application
	Typ.	Typ.	Typ.		
BTL11IR	940	1.6	270	12°	Speed Detector
BTL11IRP	870	1.6	270	12°	Speed Detector
BTL11IRA	970	1.55	270	12°	Aesthetic Medicine
BTL11IRS	810	1.7	290	12°	Vein Viewer



Oximeter Series

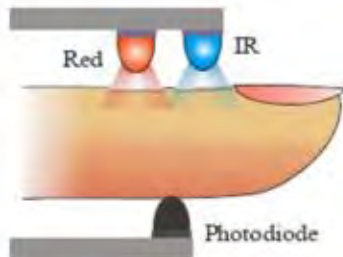
0606/1210 1.6*1.5*0.55 mm / 3.2*2.7*1.1 mm

Characters Top View | 2 in 1

Application Oximeter



Series	λ_p (nm)	Forward Voltage (Vf)	Radiant Intensity(mW/sr)	Viewing Angle	IF(mA)
	Typ.	Typ.	Typ.		
B26H2HRRC	660	2.2	2.5	140°	20
	905	1.4	2	140°	20
B15H2HRRC	662	1.95	1.2	140°	20
	900	1.39	1.7	140°	20

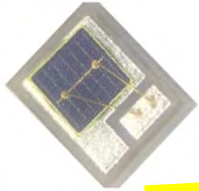


High Power | Small Package

2.04*1.64*0.8 mm / 1.6*1.0*0.8 mm

Characters Top View | High Intensity

Application CCTV/VR



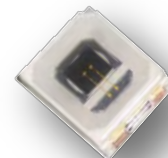
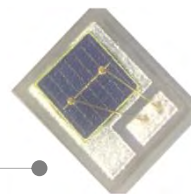
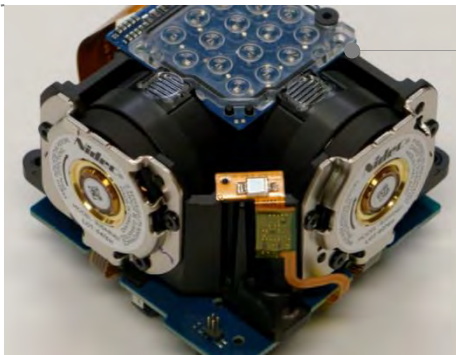
Series	λ_p (nm)	Forward Voltage (Vf)	Radiometric Power(mW)	Viewing Angle	IF(mA)
	Typ.	Typ.	Typ.		
C1701IR	940	1.3	300	120°	500~700

Under Development

Series	λ_p (nm)	Forward Voltage (Vf)	Radiometric Power(mW)	Viewing Angle	IF(mA)
	Typ.	Typ.	Typ.		
C1601IR	940	1.6	280	120°	500~700
C1601IRP	850	1.7	260	120°	500~700

Under Development

High Power | Small Package



ALL-IN-ONE for ALS & PS

All-in-one 2in1 / 3 in1 / 4 in 1

Characters Small in size for consumer device

Application PS sensor for Bluetooth Earpiece

2 in 1

1.9 x 1.4 x 0.65 mm

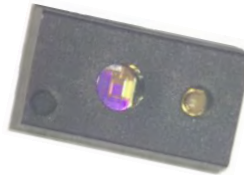


Proximity Sensor
VCSEL or IR + PT

3 in 1

OEM

3.6 X 2.1 X 1.0 mm



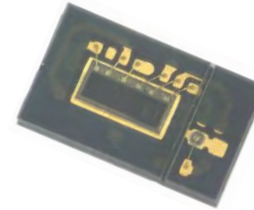
ALS+PS
CMOS Sensor + IR

4 in 1

OEM

2.36 X 3.94 X 0.65 mm

CMOS Sensor : provided by customer



ALS+PS+SUV
CMOS Sensor + VCSEL



HARVATEK STRENGTHS



ODM/OEM Experience with First-Tier LED Manufacturers

- Quality
- Cooperation



Research & Development Based on 20-year SMD manufacturing Experience in the Field

- Fast R&D
- Flexibility
- Technical Support

Q & A

