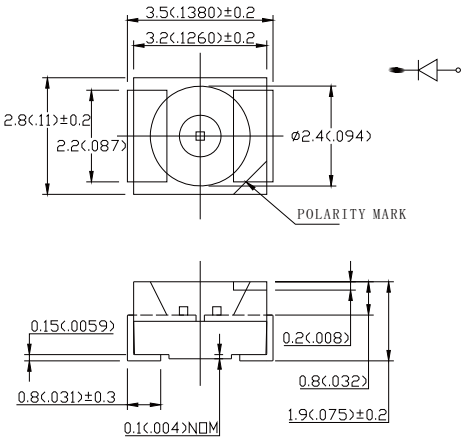
# Invisible optoelectronics device

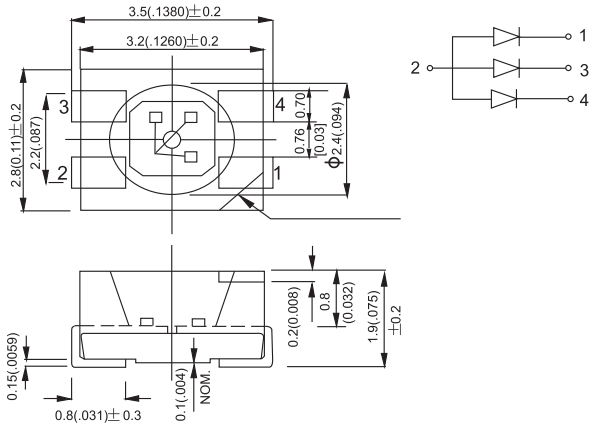
Infrared Diode
Photo Diode
Photo Transistor
High power Infrared diode

## Infrared Emitters

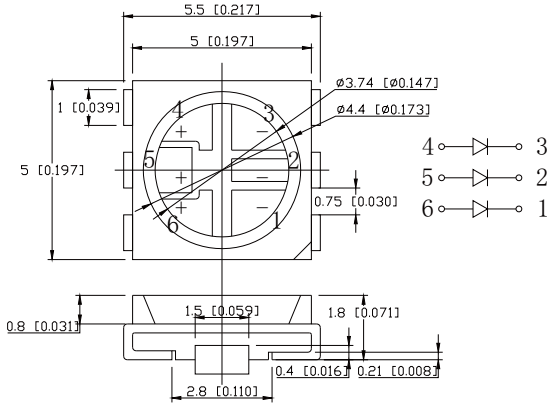
| Part Number | Chip | | Lens Type | Φe (Mw) | Viewing Angle 201/2 | Drawing |
|---|---|---|---|---|---|---|
| | Material | λP (nm) | | Typ. | | |
| BL-LS3528A0S1IRAC | GaAs | 940 | Water Clear | 30 | 120 | BL-LS3528A0S1 |
| BL-LS3528A0S1IRAB | GaAs | 940 | Blue Trans. | 30 | | |
| BL-LS3528A0S1IRBC | GaAlAs | 880 | Water Clear | 30 | | |
| BL-LS3528A0S1IRBB | GaAlAs | 880 | Blue Trans. | 30 | | |
| BL-LS3528A0S1IRCC | GaAlAs | 850 | Water Clear | 50 | | |
| BL-LS3528A0S1IRCB | GaAlAs | 850 | Blue Trans. | 50 | | |
| BL-LS3528A0S1IRCY | GaAlAs | 850 | Yellow Trans. | 50 | | |




| | | | | | | |
|---|---|---|---|---|---|---|
| BL-LS3528B1S3IRAC | GaAs | 940 | Water Clear | 90 | 60 | BL-LS3528B1S3 |
| BL-LS3528B1S3IRAB | GaAs | 940 | Blue Trans. | 90 | | |
| BL-LS3528B1S3IRBC | GaAlAs | 880 | Water Clear | 90 | | |
| BL-LS3528B1S3IRBB | GaAlAs | 880 | Blue Trans. | 90 | | |
| BL-LS3528B1S3IRCC | GaAlAs | 850 | Water Clear | 150 | | |
| BL-LS3528B1S3IRCB | GaAlAs | 850 | Blue Trans. | 150 | | |
| BL-LS3528B1S3IRCY | GaAlAs | 850 | Yellow Trans. | 150 | | |




| | | | | | | |
|---|---|---|---|---|---|---|
| BL-LS5050A1S3IRAC | GaAs | 940 | Water Clear | 90 | 60 | BL-LS5050A1S3 |
| BL-LS5050A1S3IRAB | GaAs | 940 | Blue Trans. | 90 | | |
| BL-LS5050A1S3IRBC | GaAlAs | 880 | Water Clear | 90 | | |
| BL-LS5050A1S3IRBB | GaAlAs | 880 | Blue Trans. | 90 | | |
| BL-LS5050A1S3IRCC | GaAlAs | 850 | Water Clear | 150 | | |
| BL-LS5050A1S3IRCB | GaAlAs | 850 | Blue Trans. | 150 | | |
| BL-LS5050A1S3IRCY | GaAlAs | 850 | Yellow Trans. | 150 | | |



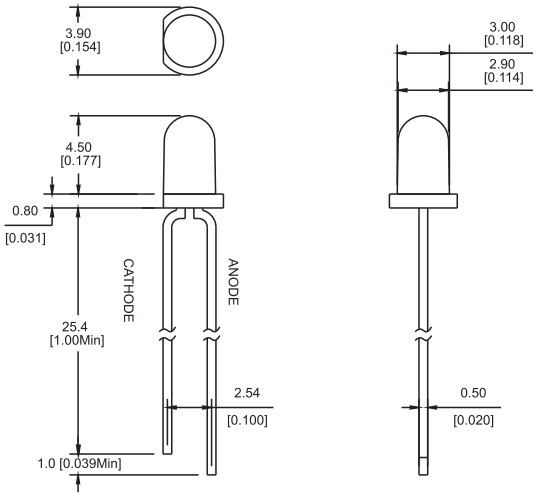

All dimensions are in millimeters (inches)
Tolerance is ±0.25(0.01")unless otherwise note

| Part Number | Chip | | Lens Type | Φe (Mw) | Viewing Angle 201/2 | Drawing |
|---|---|---|---|---|---|---|
| | Material | λP (nm) | | Typ. | | |

## 3mm IR LED

| | | | | | |
|---|---|---|---|---|---|
| BL-L314IRAC | GaAs | 940 | Water Clear | 25 | 40 |
| BL-L314IRAB | GaAs | 940 | Blue Trans. | 25 | |
| BL-L314IRBC | GaAlAs | 880 | Water Clear | 25 | |
| BL-L314IRBB | GaAlAs | 880 | Blue Trans. | 25 | |
| BL-L314IRCC | GaAlAs | 850 | Water Clear | 45 | |
| BL-L314IRCB | GaAlAs | 850 | Blue Trans. | 45 | |
| BL-L314IRCY | GaAlAs | 850 | Yellow Trans. | 45 | |

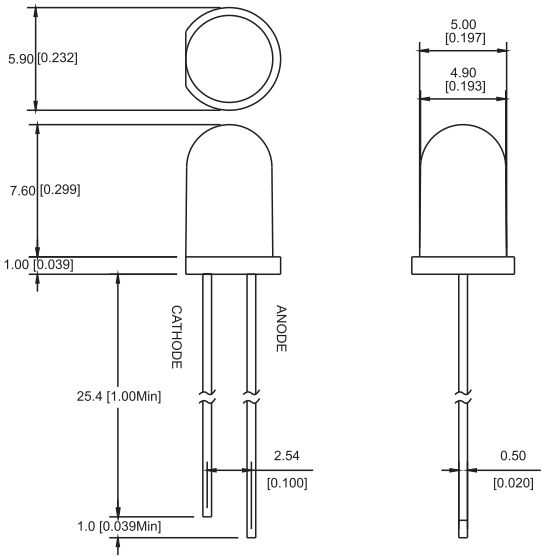
## BL-L314IR




## 5mm IR LED

| | | | | | |
|---|---|---|---|---|---|
| BL-L513IRAC | GaAs | 940 | Water Clear | 30 | 30 |
| BL-L513IRAB | GaAs | 940 | Blue Trans. | 30 | |
| BL-L513IRBC | GaAlAs | 880 | Water Clear | 30 | |
| BL-L513IRBB | GaAlAs | 880 | Blue Trans. | 30 | |
| BL-L513IRCC | GaAlAs | 850 | Water Clear | 50 | |
| BL-L513IRCB | GaAlAs | 850 | Blue Trans. | 50 | |
| BL-L513IRCY | GaAlAs | 850 | Yellow Trans. | 50 | |

## BL-L513IR

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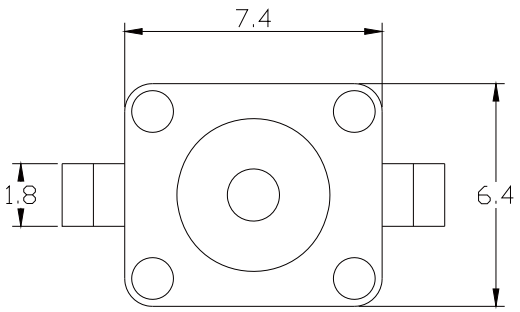
Tolerance is ±0.25(0.01")unless otherwise note

## Power Infrared Emitters

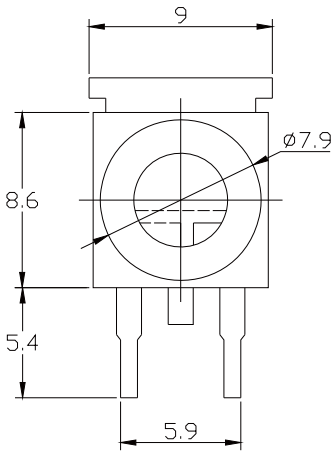
| Part Number | Chip | | Lens Type | Φe (Mw) | Viewing Angle 201/2 | Drawing |
|---|---|---|---|---|---|---|
| | Material | λP (nm) | | Typ. | | |
| BL-HP7EIRAC | GaAs | 940 | Water Clear | 500 | 120 | |
| BL-HP7EIRAB | GaAs | 940 | Blue Trans. | 500 | | |
| BL-HP7EIRCC | GaAlAs | 850 | Water Clear | 950 | | |
| BL-HP7EIRCB | GaAlAs | 850 | Blue Trans. | 950 | | |
| BL-HP7EIRCY | GaAlAs | 850 | Yellow Trans. | 950 | | |

BL-HP7EXX Series



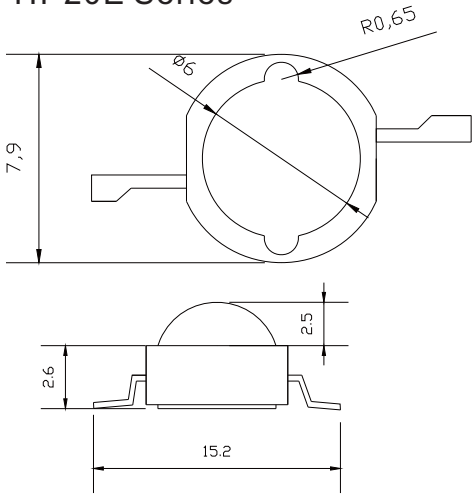

| | | | | | |
|---|---|---|---|---|---|
| BL-HP9EIRAC | GaAs | 940 | Water Clear | 500 | 120 |
| BL-HP9EIRAB | GaAs | 940 | Blue Trans. | 500 | |
| BL-HP9EIRCC | GaAlAs | 850 | Water Clear | 950 | |
| BL-HP9EIRCB | GaAlAs | 850 | Blue Trans. | 950 | |
| BL-HP9EIRCY | GaAlAs | 850 | Yellow Trans. | 950 | |

BL-HP9EXX Series




| | | | | | |
|---|---|---|---|---|---|
| BL-HP20EIRAC | GaAs | 940 | Water Clear | 3100 | 120 |
| BL-HP20EIRAB | GaAs | 940 | Blue Trans. | 3100 | |
| BL-HP20EIRCC | GaAlAs | 850 | Water Clear | 3500 | |
| BL-HP20EIRCB | GaAlAs | 850 | Blue Trans. | 3500 | |
| BL-HP20EIRCY | GaAlAs | 850 | Yellow Trans. | 3500 | |

BL-HP20E Series

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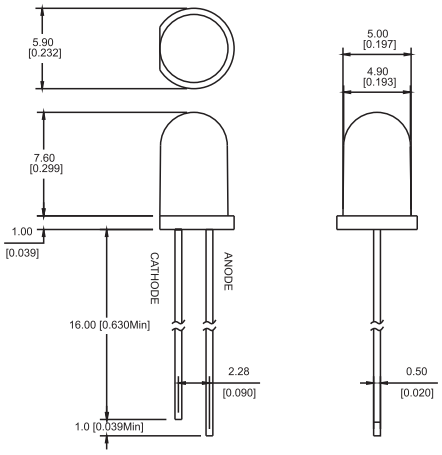
# Sillicon Photo Diodes

## 5.1*3.0*7.4mm SILICON PHOTO DIODES

| Items | Symbol | Min. | Typ. | Max. | Unit | Condition |
|---|---|---|---|---|---|---|
| Wavelength of Peak Sensitivity | λ P | – | 940 | – | Nm | – |
| Open Circuit Voltage | VOC | | 0.35 | – | V | H=5mW/cm² |
| Short Circuit Current | ISC | – | 75 | – | uA | 1P=940nm |
| Reverse Light Current | IL | – | 120 | – | uA | H=5mW/cm²<br>1P=940nm<br>VR=5V |
| Reverse Dark Current | ID | – | 5 | 30 | NA | H=0mW/cm²<br>VR=10V |
| Reverse Break down Voltage | VBR | 35 | 170 | – | V | H=0mW/cm²<br>IR=100uA |
| Viewing angle | 201/2 | – | 35 | – | Deg | |
| Rise/Fall Time | Tr/Tf | – | 50/50 | – | NS | RL=1000Ω<br>VR=10V |

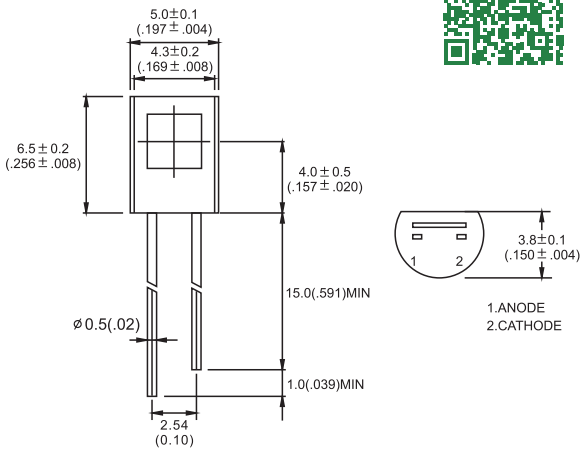
## BL-L512PD




## 5*3.8*6.5mm SILICON PHOTO DIODES

| Items | Symbol | Min. | Typ. | Max. | Unit | Condition |
|---|---|---|---|---|---|---|
| Wavelength of Peak Sensitivity | λ P | – | 940 | – | nm | – |
| Open Circuit Voltage | Voc | | 0.35 | – | V | H=5mW/cm² |
| Short Circuit Current | Isc | 50 | 75 | – | uA | 1P=940nm |
| Reverse Light Current | IL | 60 | 120 | – | uA | H=5mW/cm²<br>1P=940nm<br>VR=5V |
| Reverse Dark Current | Id | – | 5 | 30 | nA | H=0mW/cm²<br>VR=10V |
| Reverse Break down Voltage | Vbr | 35 | 170 | – | V | H=0mW/cm²<br>IR=100uA |
| Viewing angle | 201/2 | – | 140 | – | Deg | |
| Rise/Fall Time | Tr/Tf | – | 50/50 | – | NS | RL=1000Ω<br>VR=10V |

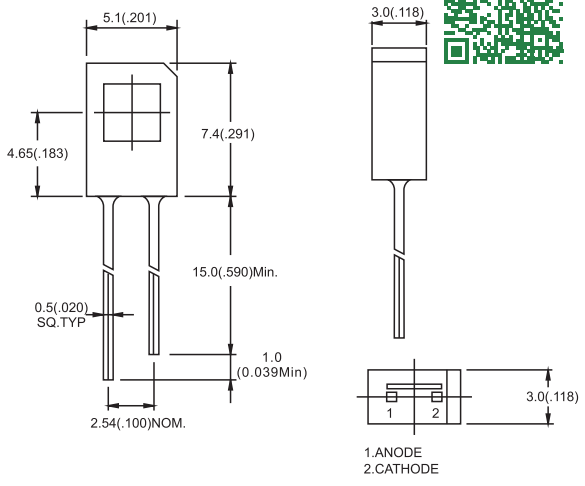
## BL-L4802PD




## 5.1*3.0*7.4mm SILICON PHOTO DIODES

| Items | Symbol | Min. | Typ. | Max. | Unit | Condition |
|---|---|---|---|---|---|---|
| Wavelength of Peak Sensitivity | λ P | – | 940 | – | nm | – |
| Open Circuit Voltage | Voc | – | 0.35 | – | V | H=5mW/cm² |
| Short Circuit Current | Isc | – | 75 | – | uA | 1P=940nm |
| Reverse Light Current | IL | – | 120 | – | uA | H=5mW/cm²<br>1P=940nm<br>VR=5V |
| Reverse Dark Current | Id | – | 5 | 10 | nA | H=0mW/cm²<br>VR=10V |
| Reverse Break down Voltage | Vbr | 35 | 170 | – | V | H=0mW/cm²<br>IR=100uA |
| Viewing angle | 201/2 | – | 140 | – | Deg | |
| Rise/Fall Time | Tr/Tf | – | 50/50 | – | NS | RL=1000Ω<br>VR=10V |

## BL-L3522PD

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