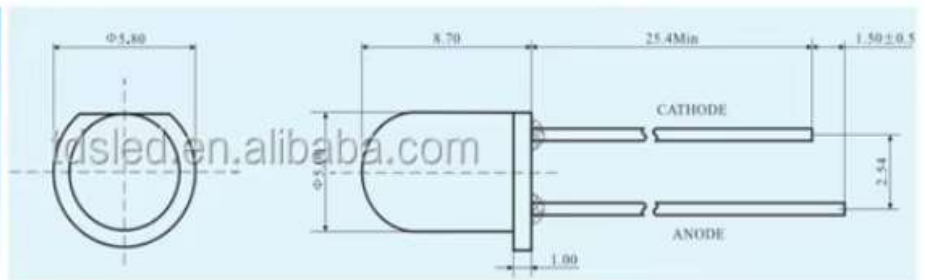


# 5MM IR TRANSMITTER



## Product Description



| Part Number   | Chip Material | AD(nm) CCT Typ. | POWER | Mw    | Lens Color       | V <sub>F</sub> (V)@I <sub>F</sub> =20mA |      | Viewing Angle 2 $\theta$ ½ |
|---------------|---------------|-----------------|-------|-------|------------------|-----------------------------------------|------|----------------------------|
|               |               |                 |       |       |                  | Min.                                    | Max. |                            |
| TDS-5011IR1CN | InGaN         | 740NM           | 0.06W | 5-6lm | Blue/Clear/Black | 1.3                                     | 1.4  | 30/45/60/90                |
| TDS-5011IR2CN | InGaN         | 850NM           | 0.06W | 4mW   | Blue/Clear/Black | 1.3                                     | 1.4  | 30/45/60/90                |
| TDS-5011IR3CN | InGaN         | 940NM           | 0.06W | 3mW   | Blue/Clear/Black | 1.3                                     | 1.4  | 30/45/60/90                |

Photo Diode / photo Transistor / PD diode / PT Diode for remote control infrared receiver / Remote control infrared transmitter

## ABSOLUTE MAXIMUM RATINGS (TA=25°C)

| Parameter (参数)              | Symbol (符号) | Rating  | Unit |
|-----------------------------|-------------|---------|------|
| Collector-Emitter Voltage   | VCE0        | 20      | v    |
| Emitter-Collector Voltage   | VECO        | 5       | v    |
| Collector Current           | IC          | 20      | ma   |
| Collector Power Dissipation | PD          | 100     | mw   |
| Operating Temperature       | TOPR        | -20~+65 | ° c  |
| Storage Temperature         | Tstg        | -20~+85 | ° c  |
| Soldering Temperature * 1   | Tsol        | 260     | ° c  |

\*1 AT THE POSITION OF 2MM FROM THE BOTTOM OF THE PACKAGE WITHIN 5 SECONDS.

## ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C)

| Parameter (参数)                       | Symbol (符号) | Testing conditions                    | MIN      | TYP | MAX  | Unit |
|--------------------------------------|-------------|---------------------------------------|----------|-----|------|------|
| Collector Light Current              | IC          | VcE= 3V, Ev= 1000Lux, (Ee=5mW/cm²) *2 | 5        | 20  |      | mA   |
| Collector Dark Current               | ICE0        | VcE10V, Ec=0 *2                       |          | 1   | 100  | nA   |
| Collector-Emitter Saturation Voltage | VCE(Sat)    | Ic=0.2mA<br>Ev=2000LuxEe=10mW/cm² *2  |          |     | 0.4  | v    |
| Peak Sensitivity Wavelength          | λp          |                                       |          | 880 |      | nm   |
| Spectral Sensitivity                 | Δλ          |                                       | 450-1050 |     |      | nm   |
| Angular Response                     | Δθ          |                                       |          | ±20 |      | Deg. |
| Rising Response Time                 | tr          | Vcc= 10V, Ic= 1mA, RL= 100Ω           |          | 2.5 |      | μs   |
| Falling Response Time                | tr          |                                       |          | 3.8 |      | μs   |
| Magnification A multiple             | PD          |                                       | 500      | 750 | 1000 |      |

\*2 EV,EE ARE ILLUMINANCE IRRADIANT BY CIE STANDARD LIGHT SOURCE A (TUNGSTEN LAMP) AT 2856K。