

PN268

Darlington Phototransistor

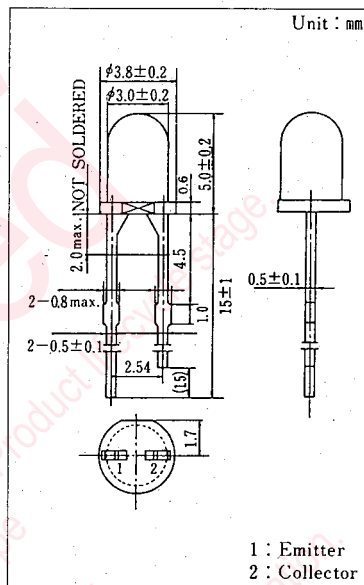
For Optical Control Systems

■ Features

- Darlington output, high sensitivity
- Matched to red or infrared emitters
- 3φ plastic package

■ Absolute Maximum Ratings (Ta=25°C)

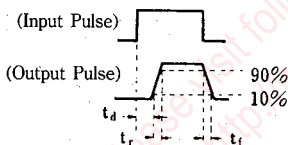
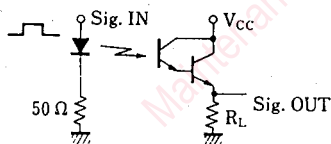
| Item | Symbol | Value | Unit |
|-------------------------------|------------------|----------|------|
| Collector to Emitter Voltage | V _{CE0} | 20 | V |
| Emitter to Collector Voltage | V _{EC0} | 5 | V |
| Collector Current | I _C | 30 | mA |
| Collector Power Dissipation | P _C | 100 | mW |
| Operating Ambient Temperature | T _{opr} | -25~+80 | °C |
| Storage Temperature | T _{stg} | -30~+100 | °C |



■ Electro-Optical Characteristics (Ta=25°C)

| Item | Symbol | Condition | min. | typ. | max. | Unit |
|------------------------------|------------------------------------|--|------|------|------|------|
| Dark Current | I _{CE0} | V _{CE} =10V | | | 0.5 | μA |
| Collector Photo Current | I _{CE(L)*3} | V _{CE} =10V, L=2 lx*1 | 0.1 | | 3 | mA |
| Peak Sensitivity Wavelength | λ _P | V _{CE} =10V | | 800 | | nm |
| Acceptance Half Angle | θ | Measured from the optical axis to the half power point | | 30 | | deg. |
| Response Time | t _r , t _f *2 | V _{CC} =10V, I _{CE(L)} =5 mA, R _L =100Ω | | 150 | | μs |
| Collector Saturation Voltage | V _{CE(sat)} | I _{CE(L)} =1mA, L=100lx*1 | 0.7 | 1.5 | | V |

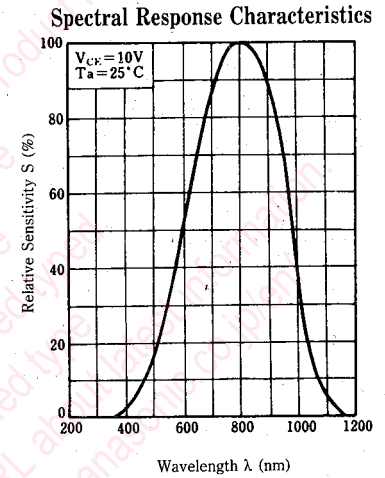
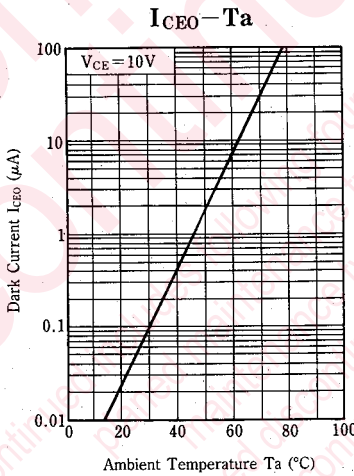
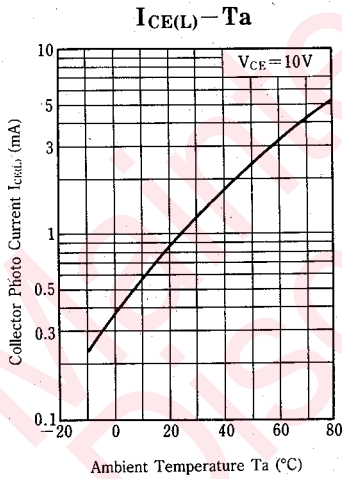
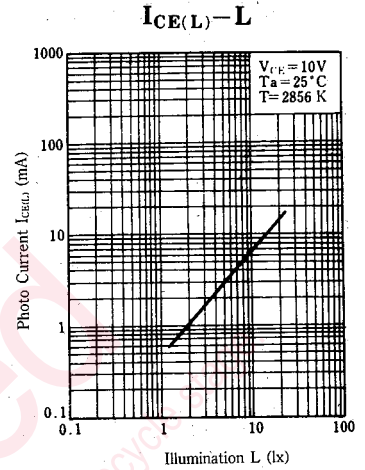
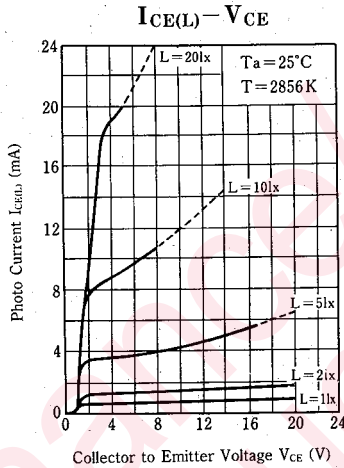
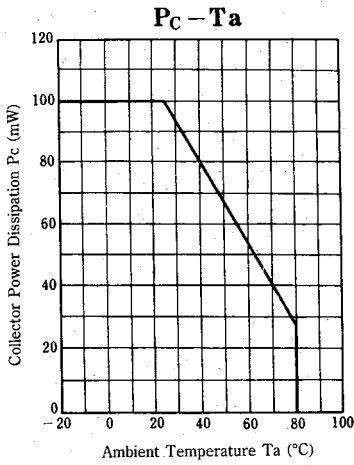
*1 Source: Tungsten 2856K *2 Switching Time Measuring Circuit



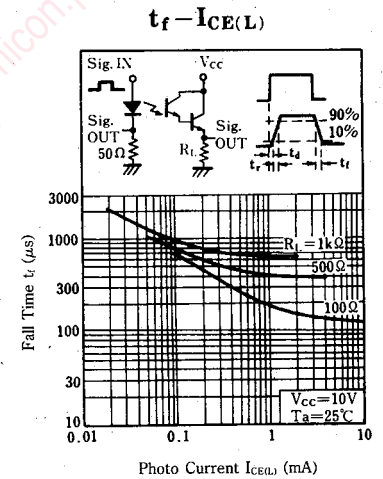
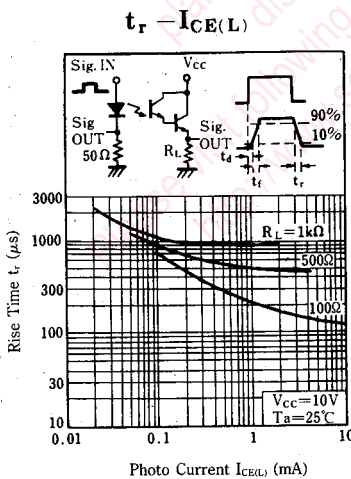
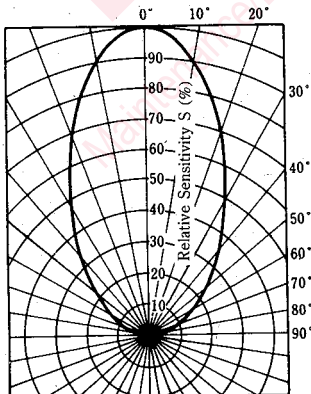
- t_d: Delay time
- t_r: Rise time (Time required for the collector current to increase from 10% to 90% of its final value)
- t_f: Fall time (Time required for the collector current to decrease from 90% to 10% of its initial value)

*3 I_{CE(L)} Classifications

| Class | Q | R | S |
|-------------------------|----------|----------|-------|
| I _{CE(L)} (mA) | 0.1~0.45 | 0.35~1.6 | 1.4~3 |



Directional Characteristics



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