



## SLT-50HF Series

### NPN Phototransistor

#### Features

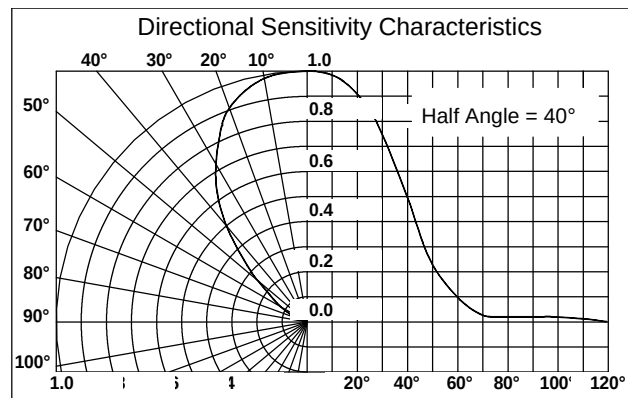
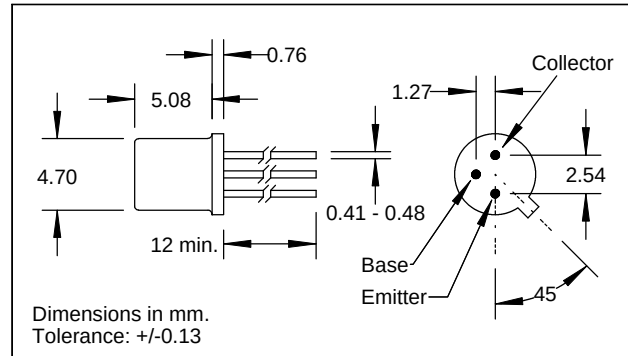
- Wide receiving angle
- NPN planar epitaxial process
- Multiple sensitivity ranges
- Extended temperature range
- Hermetic TO-18 case with flat window

#### Description

The SLT-50HF series consists of an NPN silicon planar epitaxial phototransistor mounted in a hermetically sealed TO-18 flat window package. The wide angle of receiving sensitivity provides a relatively uniform response over a wide field of view. The TO-18 hermetic package provides high reliability in hostile environments. The various sensitivity ranges available provide the desired output to meet multiple application demands.

#### Absolute Maximum Ratings

|                              |                 |
|------------------------------|-----------------|
| Storage Temperature Range    | -65°C to +150°C |
| Operating Temperature Range  | -55°C to +125°C |
| Soldering Temperature (2)    | 260°C           |
| Power Dissipation @ 25°C (1) | 250mW           |



#### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

| Symbol                          | Parameter                               | MIN | TYP | MAX  | UNITS | TEST CONDITIONS                                                       |
|---------------------------------|-----------------------------------------|-----|-----|------|-------|-----------------------------------------------------------------------|
| I <sub>C(ON)</sub>              | On-State Collector Current:             |     |     |      |       |                                                                       |
|                                 | SLT-50HF1                               | 0.2 |     |      | mA    | V <sub>CE</sub> =5V, Ee=5mW/cm <sup>2</sup> (3)                       |
|                                 | SLT-50HF2                               | 0.4 |     |      | mA    | V <sub>CE</sub> =5V, Ee=5mW/cm <sup>2</sup> (3)                       |
|                                 | SLT-50HF3                               | 1.0 |     |      | mA    | V <sub>CE</sub> =5V, Ee=5mW/cm <sup>2</sup> (3)                       |
|                                 | SLT-50HF4                               | 2.5 |     |      | mA    | V <sub>CE</sub> =5V, Ee=5mW/cm <sup>2</sup> (3)                       |
| I <sub>CEO</sub>                | Collector Dark Current                  |     |     | 50   | nA    | V <sub>CE</sub> =10V, Ee=0                                            |
| BV <sub>CEO</sub>               | Collector-Emitter Breakdown Voltage     | 40  |     |      | V     | I <sub>C</sub> =100μA, Ee=0                                           |
| BV <sub>CBO</sub>               | Collector-Base Breakdown Voltage        | 60  |     |      | V     | I <sub>C</sub> =100μA, Ee=0                                           |
| BV <sub>ECO</sub>               | Emitter- Collector Breakdown Voltage    | 7.5 |     |      | V     | I <sub>C</sub> =100μA, Ee=0                                           |
| V <sub>CE(SAT)</sub>            | Collector to Emitter Saturation Voltage |     |     | 0.4  | V     | I <sub>C</sub> =0.15mA, Ee=5mW/cm <sup>2</sup> (3)                    |
| t <sub>r</sub> , t <sub>f</sub> | Rise Time, Fall Time                    |     | 3   |      | μS    | R <sub>L</sub> =100 Ω, I <sub>C</sub> =800μA, V <sub>CC</sub> =5V (4) |
| λ <sub>P</sub>                  | Maximum Sensitivity Wavelength          |     | 930 |      | nm    |                                                                       |
| λ <sub>R</sub>                  | Sensitivity Spectral Range              | 400 |     | 1100 | nm    |                                                                       |
| θ <sub>1/2</sub>                | Acceptance Half Angle                   |     | 40  |      | deg   | (off center-line)                                                     |

Notes: (1) derate @ 2.5mW/°C above 25°C.  
 (2) >2 mm from case for <5 sec.  
 (3) Ee = source @ 2854 °K  
 (4) Ee = source @ λ = 880 nm

Specifications subject to change without notice.

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