

Part Number: KTIR0121DS

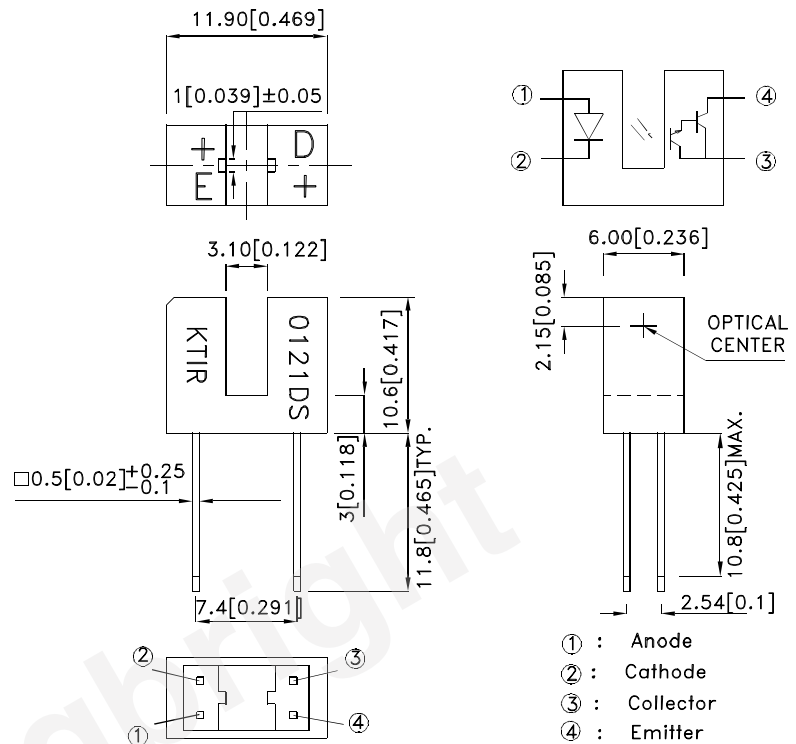
Features

- High sensing accuracy
- High current transfer ratio
- Both-sides mounting type
- RoHS compliant.

Applications

- OA equipment, such as floppy disk drives, printers, facsimiles, etc
- VCRs

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 (0.01") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

Absolute Maximum Ratings (TA=25°C)

| Parameter | | Symbol | Rating | Unit |
|---|--|------------------|---------|------|
| Input | Forward current | I _F | 50 | mA |
| | Reverse voltage | V _R | 6 | V |
| | Power dissipation | P _D | 75 | mW |
| | Peak Forward Current (Pulse Width≤100μS,Duty Cycle=1%) | I _{FP} | 1 | A |
| Output | Collector-emitter voltage | V _{CEO} | 35 | V |
| | Emitter-collector voltage | V _{ECO} | 6 | V |
| | Collector current | I _C | 40 | mA |
| | Collector power dissipation | P _C | 75 | mW |
| Operating temperature | | T _{opr} | -40~+85 | °C |
| Storage temperature | | T _{stg} | -40~+85 | °C |
| Soldering temperature (1/16 inch from body for 5 seconds) | | T _{sol} | 260 | °C |



Electro-optical Characteristics(Ta=25°C)

| Parameter | | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|--------------------------|--------------------------------------|---------------|--|------|------|-----------|-----------------|
| Input | Forward voltage | V_F | $I_F=20\text{mA}$ | 1.0 | 1.2 | 1.5 | V |
| | Peak forward voltage | V_{FM} | $I_{FM}=0.5\text{A}$ | — | 2 | 3 | V |
| | Reverse current | I_R | $V_R=6\text{V}$ | — | — | 10 | μA |
| Output | Collector dark current | I_{CEO} | $V_{CE}=10\text{V}, I_F=0\text{mA}$ | — | — | 10^{-6} | A |
| Transfer Characteristics | Current transfer ratio | CTR | $V_{CE}=2\text{V}$ $I_F=1\text{mA}$ | — | 600 | — | % |
| | Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_F=2\text{mA}$ $I_C=1\text{mA}$ | — | — | 1.0 | V |
| | Response time | Rise time | $V_{CE}=2\text{V}$ $I_C=10\text{mA}$ $R_L=100\Omega$ | — | 90 | 400 | μSec |
| | | Fall time | | — | 80 | 300 | μSec |

Fig.1 Forward Current vs. Forward Voltage

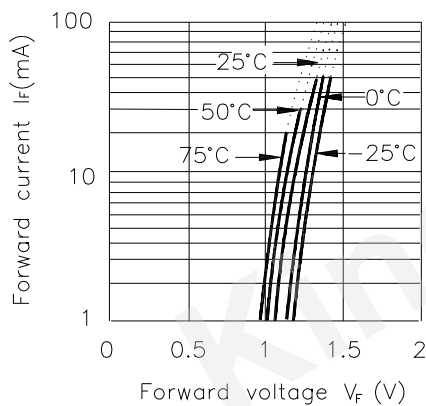


Fig.2 Collector Current vs. Forward Current

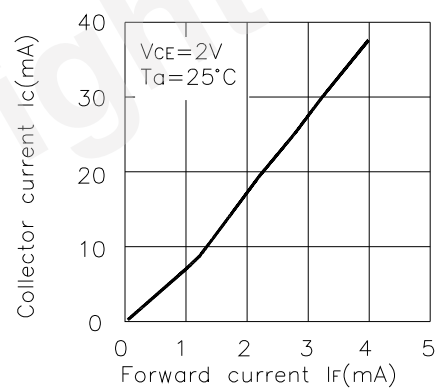


Fig.3 Collector Current vs. Collector-emitter Voltage

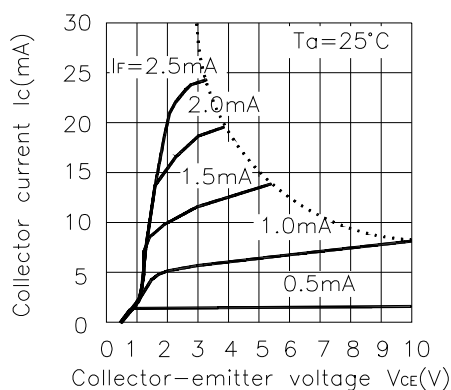


Fig.4 Collector Current vs. Ambient Temperature

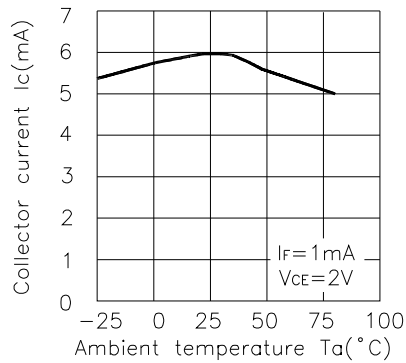


Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature

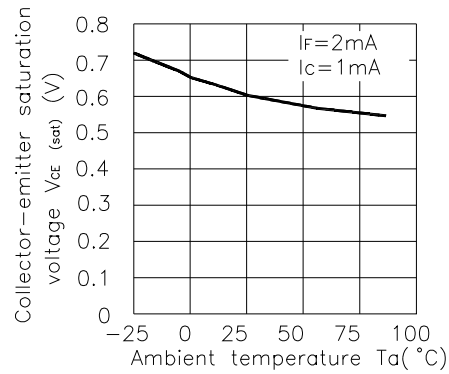


Fig.6 Relative Collector Current vs. Shield Distance(1)

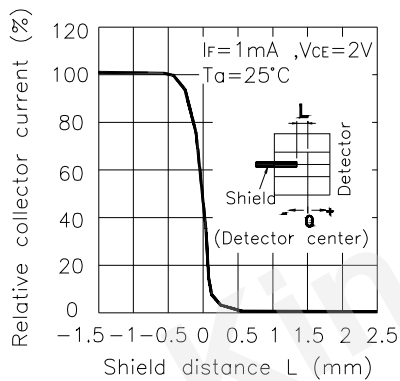


Fig.7 Relative Collector Current vs. Shield Distance(2)

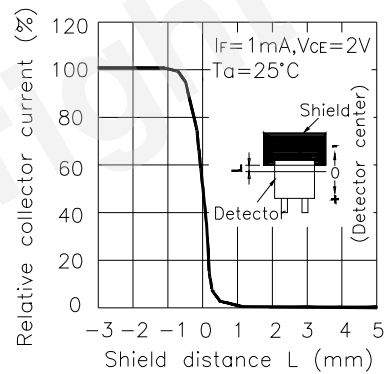
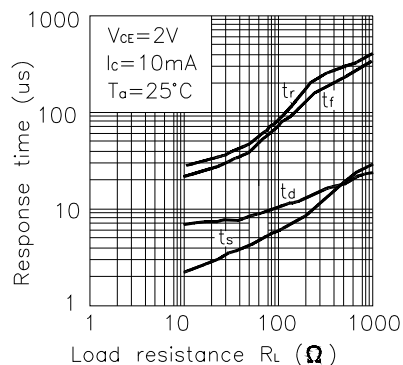
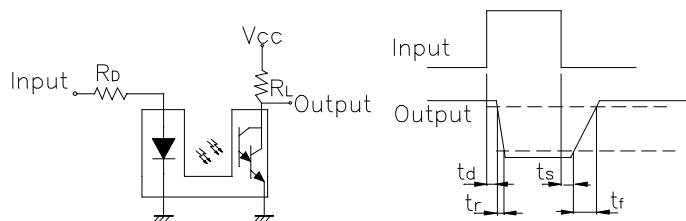


Fig.8 Response Time vs. Load Resistance

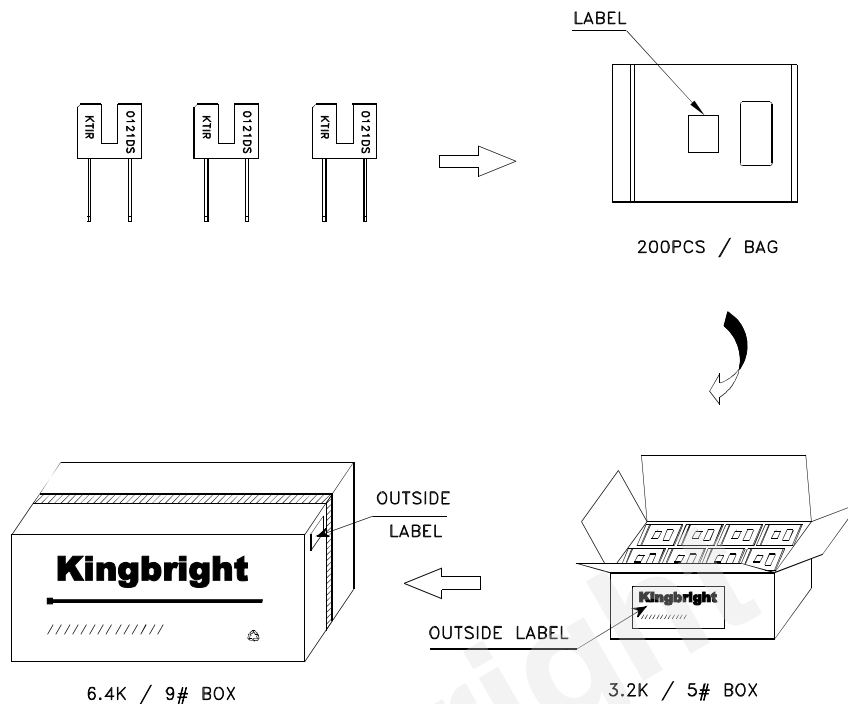



Test Circuit for Response Time



PACKING & LABEL SPECIFICATIONS

KTIR0121DS



| | |
|--|--|
| Kingbright | |
| P/NO: KTIRxxx | |
| QTY: 200 pcs | Q.C. Q C XX XX XX PASSED |
| S/N: XXXX | |
| CODE: XXX | |
| LOT NO: | |
|  | |
| RoHS Compliant | |

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