

SLOTTED SWITCH

T-41-73

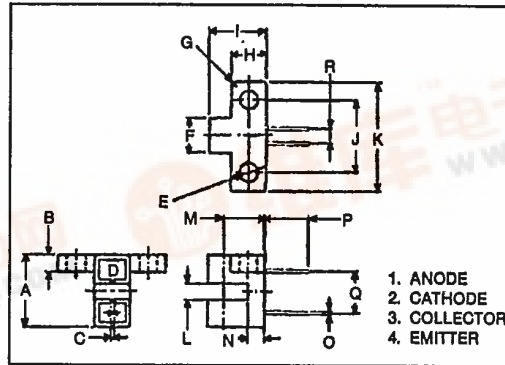
MTSS8050 INFRARED LED+PHOTO TRANSISTOR

APPLICATIONS

- OPTICAL SWITCH
- SHAFT POSITION AND VELOCITY SENSOR

FEATURES

- Both chips face each other across a 0.118 inch air gap.
- Small slit width 0.020 inch.
- Fits standard dual in-line package socket.
- No contact switching, therefore high reliability.
- Plastic case.
- Transistor detector offers faster switching speeds than darlington detectors.

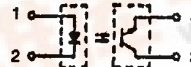


| SYMBOL | INCHES | MM |
|--------|---------------|------------|
| A | 0.512 | 13.0 |
| B | 0.118 | 3.0 |
| C | 0.020 ± 0.004 | 0.5 ± 0.1 |
| D | 0.020 | 0.5 |
| E | 0.126 | 3.2 |
| F | 0.244 | 6.2 |
| G | 0.020 | 0.5 |
| H | 0.244 | 6.2 |
| I | 0.394 | 10.0 |
| J | 0.500 ± 0.008 | 12.7 ± 0.2 |
| K | 0.748 | 19.0 |
| L | 0.118 ± 0.004 | 3.0 ± 0.1 |
| M | 0.283 ± 0.012 | 7.2 ± 0.3 |
| N | 0.118 | 3.0 |
| O | 0.018 | 0.45 |
| P | 0.709 | 18 MIN |
| Q | 0.300 | 7.62 |
| R | 0.100 | 2.54 |

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|-----------------------------|--------|--------------|
| A | Forward Current | IF | 50 mA |
| | Reverse Voltage | VR | 5 V |
| B | Collector-Emitter Voltage | VCEO | 35 V |
| | Emitter-Collector Voltage | VECO | 5 V |
| | Collector Power Dissipation | PC | 75 mW |
| | Collector Current | IC | 50 mA |
| Operating Temperature Range | | Topr | -25 ~ 85 °C |
| Storage Temperature Range | | Tstg | -40 ~ 100 °C |

PIN CONFIGURATIONS (TOP VIEW)



OPTO-ELECTRICAL CHARACTERISTICS (Ta=25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|----------------|--------------------------------------|-------------------------|------|------|------|------|
| A | Forward Voltage | VF = 10mA | 1.00 | 1.15 | 1.30 | V |
| | Reverse Current | VR = 5V | — | — | 10 | µA |
| | Capacitance | V=0, f=1MHz | — | 30 | — | pF |
| B | Dark Current | IC(I CEO) VCE=24V, IF=0 | — | 5 | 100 | nA |
| | Capacitance | CT V=0, f=1MHz | — | 13 | — | pF |
| C | Current Transfer Ratio | VCE=5V, IF=20mA | 2.5 | 10 | — | % |
| | Collector-Emitter Saturation Voltage | IF=20mA, IC=25mA | — | 0.1 | 0.4 | V |
| | Rise Time | VCC=5V, IC=2mA | — | 6 | — | µs |
| | Fall Time | RL=100Ω | — | 6 | — | µs |

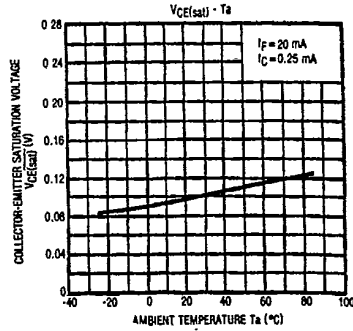
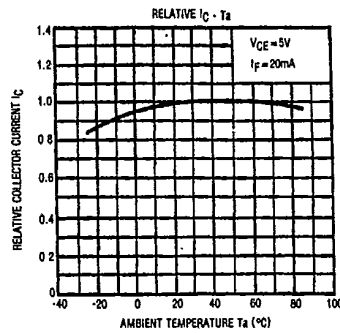
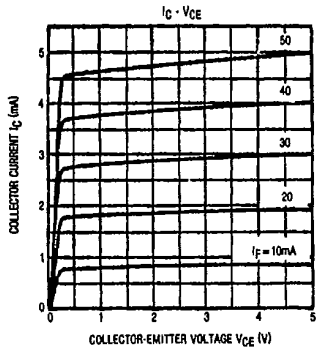
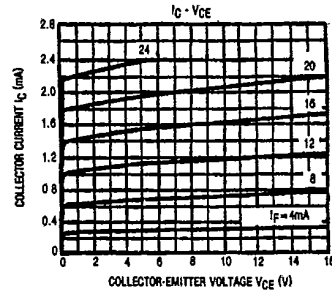
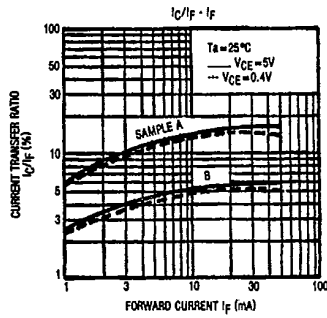
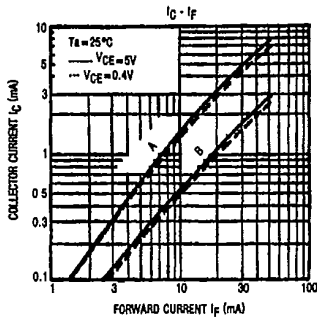
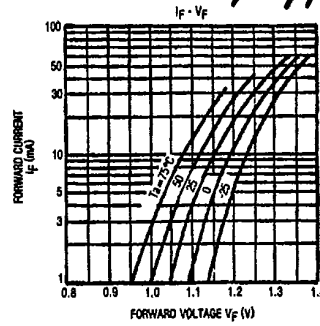
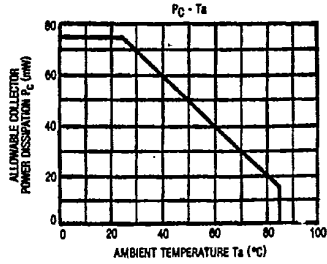
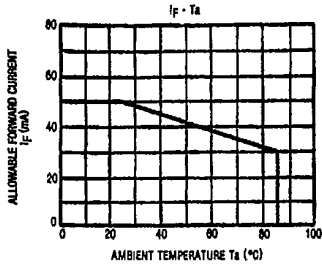
A - EMITTER B - DETECTOR C - COUPLED

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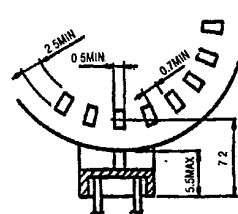
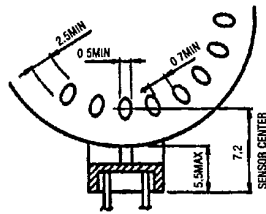
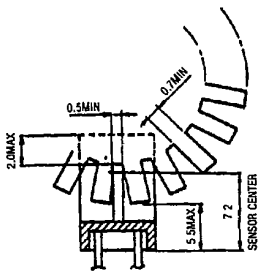
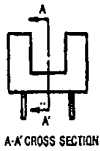
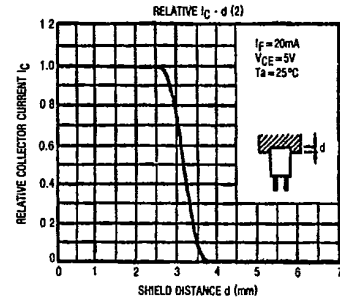
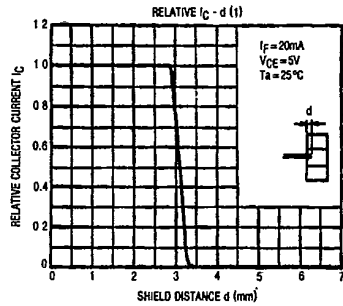
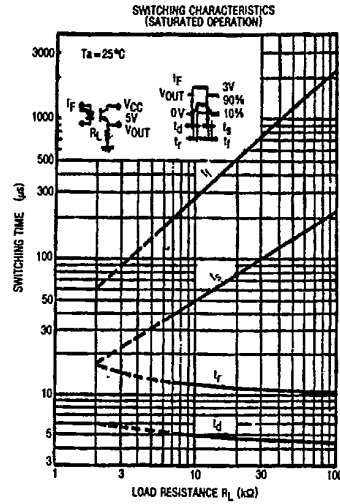
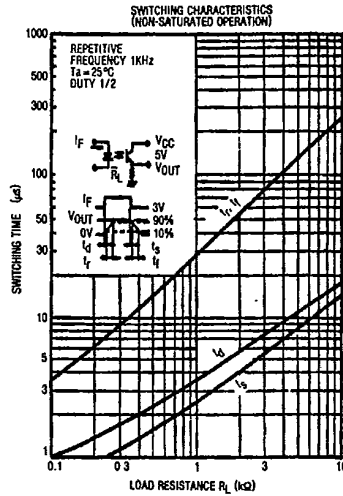
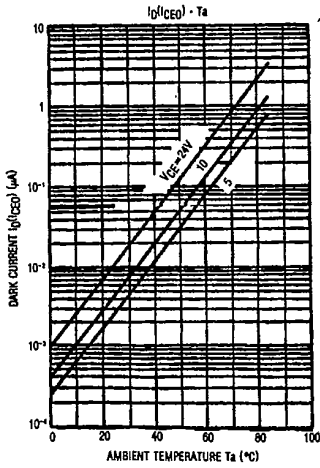
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(units in mm)