

# MTRS1060, MTRS1070

## APPLICATIONS

- TAPE EDGE SENSOR
- PAPER POSITION SENSOR FOR PRINTERS AND FACSIMILES
- INDEX SENSOR FOR FLOPPY DISC DRIVE
- BAR CODE SCANNING

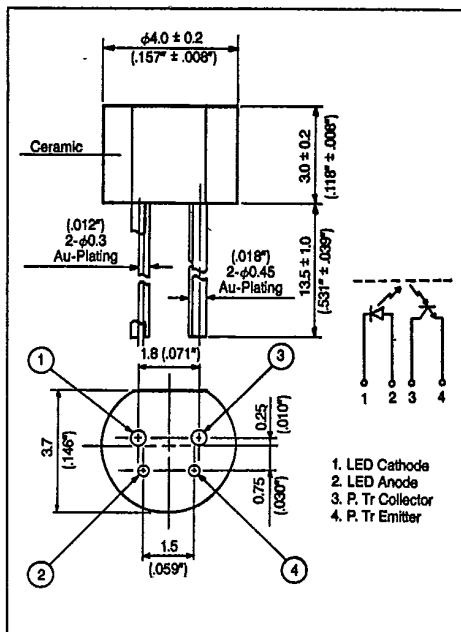
## FEATURES

- Small package size.
- Fast switching speed.
- High sensitivity.
- GaAlAs visible 660nm LED and silicon detector—MTRS1060.
- GaAlAs visible 700nm LED and silicon detector—MTRS1070.

## MAXIMUM RATINGS (Ta = 25°C)

|   | CHARACTERISTIC              | SYMBOL           | RATING    | UNIT |
|---|-----------------------------|------------------|-----------|------|
| A | Forward Current             | I <sub>F</sub>   | 50        | mA   |
|   | Reverse Voltage             | V <sub>R</sub>   | 4         | V    |
|   | Pulse Forward Current       | I <sub>FP</sub>  | 0.5*      | A    |
|   | Power Dissipation           | P <sub>D</sub>   | 100       | mW   |
| B | Collector-Emitter Voltage   | V <sub>CEO</sub> | 20        | V    |
|   | Emitter-Collector Voltage   | V <sub>ECO</sub> | 5         | V    |
|   | Collector Current           | I <sub>C</sub>   | 50        | mA   |
|   | Collector Power Dissipation | P <sub>C</sub>   | 75        | mW   |
| C | Total Power Dissipation     | P <sub>TOT</sub> | 100       | mW   |
|   | Operating Temperature       | T <sub>opr</sub> | -20 ~ 90  | °C   |
|   | Storage Temperature         | T <sub>stg</sub> | -30 ~ 100 | °C   |

\*P<sub>W</sub>=10μs, f=100Hz

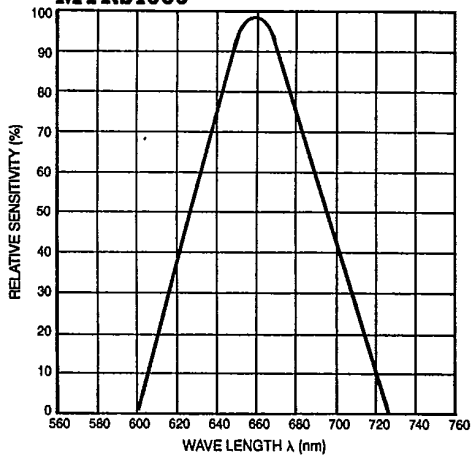


## OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

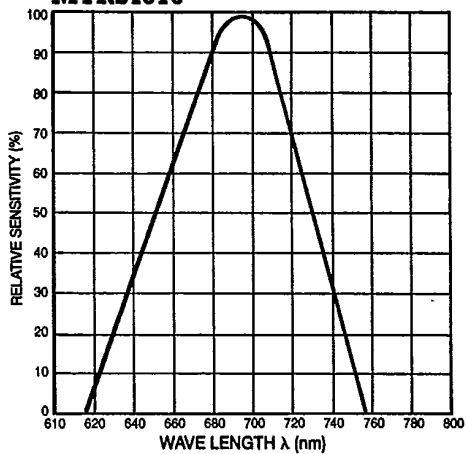
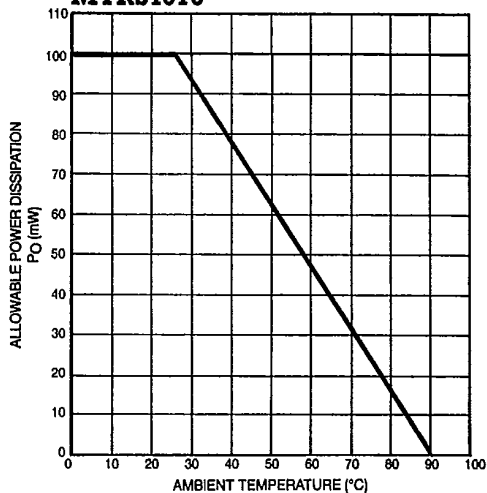
|   | CHARACTERISTIC         |                      | SYMBOL                             | TEST CONDITION                                   | MIN. | TYP.       | MAX. | UNIT |
|---|------------------------|----------------------|------------------------------------|--------------------------------------------------|------|------------|------|------|
| A | Forward Voltage        |                      | V <sub>F</sub>                     | I <sub>F</sub> =20mA                             | —    | 1.7        | 2.1  | V    |
|   | Reverse Current        |                      | I <sub>R</sub>                     | V <sub>R</sub> =4V                               | —    | —          | 10   | μA   |
|   | Peak Wave Length       | MTRS1060<br>MTRS1070 | λ <sub>p</sub>                     | I <sub>F</sub> =20mA                             | —    | 660<br>700 | —    | nm   |
| B | Collector Dark Current |                      | I <sub>D</sub> (I <sub>CEO</sub> ) | V <sub>CE</sub> =10V                             | —    | —          | 100  | nA   |
| C | Output Current         | MTRS1060             | I <sub>O</sub>                     | I <sub>F</sub> =20mA, V <sub>CE</sub> =2V, d=1mm | 150  | 300        | —    | μA   |
|   |                        | MTRS1070             |                                    |                                                  | 250  | 550        |      |      |
|   | Cross Talk             |                      | I <sub>X</sub>                     | I <sub>F</sub> =20mA, V <sub>CE</sub> =2V        | —    | —          | 200  | nA   |
|   | Switching Speed        |                      | T <sub>r</sub>                     | V <sub>CE</sub> =5V<br>I <sub>O</sub> =0.1mA     | —    | 20         | —    | μA   |
|   |                        |                      | T <sub>f</sub>                     | R <sub>L</sub> =1kΩ                              |      | 30         |      |      |

A-EMITTER B-DETECTOR C-COUPLED

SPECTRAL RESPONSE

**MTRS1060**

SPECTRAL RESPONSE

**MTRS1070****MTRS1060  
MTRS1070****MTRS1060  
MTRS1070**