

# REFLECTIVE SWITCH T-41-73

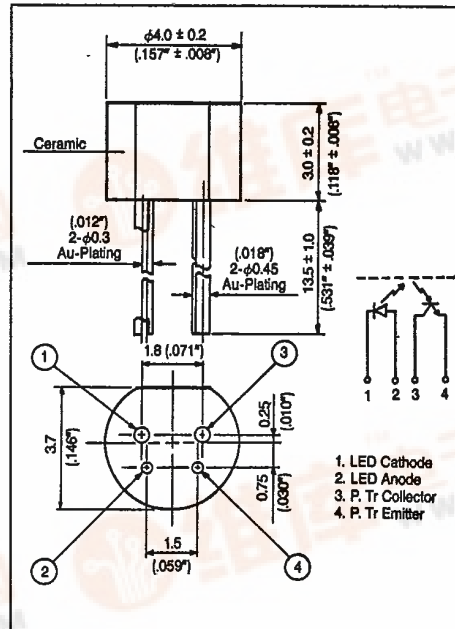
## MTRS1060, MTRS1070

### 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             | $I_F$     | 50        | mA   |
|   | Reverse Voltage             | $V_R$     | 4         | V    |
|   | Pulse Forward Current       | $I_{FP}$  | 0.5*      | A    |
|   | Power Dissipation           | $P_D$     | 100       | mW   |
| B | Collector-Emitter Voltage   | $V_{CEO}$ | 20        | V    |
|   | Emitter-Collector Voltage   | $V_{ECO}$ | 5         | V    |
|   | Collector Current           | $I_C$     | 50        | mA   |
|   | Collector Power Dissipation | $P_C$     | 75        | mW   |
| C | Total Power Dissipation     | $P_{TOT}$ | 100       | mW   |
|   | Operating Temperature       | $T_{opr}$ | -20 ~ 90  | °C   |
|   | Storage Temperature         | $T_{stg}$ | -30 ~ 100 | °C   |

\* $P_W=10\mu s, f=100Hz$

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

|   | CHARACTERISTIC         | SYMBOL               | TEST CONDITION | MIN.                                         | TYP.       | MAX.       | UNIT    |         |
|---|------------------------|----------------------|----------------|----------------------------------------------|------------|------------|---------|---------|
| A | Forward Voltage        | $V_F$                | $I_F=20mA$     | —                                            | 1.7        | 2.1        | V       |         |
|   | Reverse Current        | $I_R$                | $V_R=4V$       | —                                            | —          | 10         | $\mu A$ |         |
|   | Peak Wave Length       | MTRS1060<br>MTRS1070 | $\lambda_p$    | $I_F=20mA$                                   | —          | 660<br>700 | nm      |         |
| B | Collector Dark Current | $I_D (I_{CEO})$      | $V_{CE}=10V$   | —                                            | —          | 100        | nA      |         |
| C | Output Current         | MTRS1060<br>MTRS1070 | $I_O$          | $I_F=20mA, V_{CE}=2V, d=1mm$                 | 150<br>250 | 300<br>550 | —       | $\mu A$ |
|   | Cross Talk             |                      | $I_X$          | $I_F=20mA, V_{CE}=2V$                        | —          | —          | 200     | nA      |
|   | Switching Speed        |                      | $T_r$<br>$T_f$ | $V_{CE}=5V$<br>$I_O=0.1mA$<br>$R_L=1k\Omega$ | —          | 20<br>30   | —       | $\mu A$ |

A-EMITTER B-DETECTOR C-COUPLED

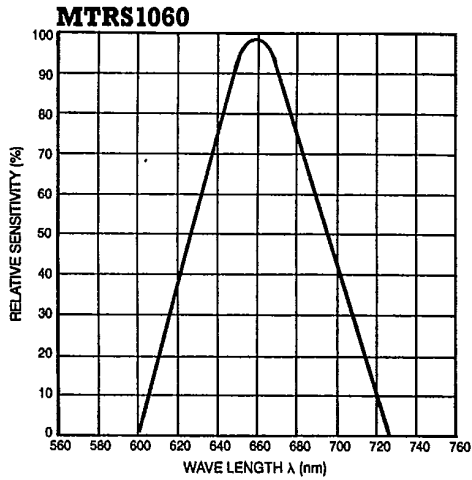
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SPECTRAL RESPONSE



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