

## MTRS5750T

### Features

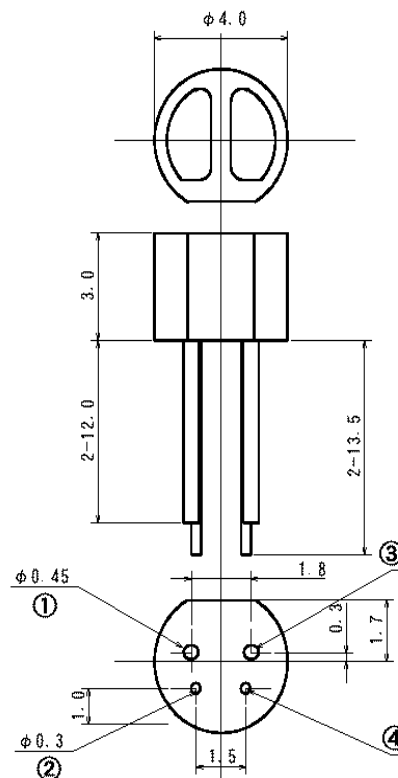
High Reliability  
Compact Package

### Applications

Card Reader  
Bar Code Reader  
Edge Sensing  
Money/Bill Reader

### Maximum Ratings (Ta=25°C)

| Characteristic            | Symbol           | Max.       | Test Condition     | Unit |
|---------------------------|------------------|------------|--------------------|------|
| Forward Current           | I <sub>F</sub>   | 30         | —                  | mA   |
| Pulsed Forward Current    | I <sub>FP</sub>  | .10        | tw=10μs,<br>T=10mS | A    |
| Reverse Voltage           | V <sub>R</sub>   | 5          | —                  | V    |
| Power Dissipation         | P <sub>D</sub>   | 75.00      | —                  | mW   |
| Collector-Emitter Voltage | V <sub>CE</sub>  | 20         | —                  | V    |
| Emitter-Collector Voltage | V <sub>EC</sub>  | 5          | —                  | V    |
| Collector Current         | I <sub>C</sub>   | 50         | —                  | mA   |
| Operating Temperature     | T <sub>opr</sub> | -20 ~ +80  | —                  | °C   |
| Storage Temperature       | T <sub>stg</sub> | -30 ~ +100 | —                  | °C   |
| Soldering Temperature     | T <sub>sol</sub> | 260        | for 5 sec. max     | °C   |



- ① LED Cathode      ③ PTR Collector  
② LED Anode      ④ PTR Emitter

### Opto-Electrical Characteristics (Ta=25°C)

| Characteristic              | Symbol         | Test Condition                                                 | Min   | Typ      | Max  | Unit |
|-----------------------------|----------------|----------------------------------------------------------------|-------|----------|------|------|
| Forward Voltage             | V <sub>F</sub> | I <sub>F</sub> =20mA                                           | —     | 2.40     | 2.80 | V    |
| Reverse Current             | I <sub>R</sub> | V <sub>R</sub> =5V                                             | —     | —        | 10   | μA   |
| Light Current               | I <sub>L</sub> | I <sub>F</sub> =20mA, V <sub>ce</sub> =10V, d=1mm*             | 50.00 | 150.00   | —    | μA   |
| Dark Current                | I <sub>D</sub> | V <sub>ce</sub> =10V                                           | —     | —        | 100  | nA   |
| Peak Sensitivity Wavelength | nm             | I <sub>F</sub> =20mA                                           | —     | 574      | —    | nm   |
| Spectral Line Half Width    | Δλ             | I <sub>F</sub> =20mA                                           | —     | 11       | —    | nm   |
| Cross-Talk                  | I <sub>x</sub> | I <sub>F</sub> =20mA, V <sub>ce</sub> =10V*                    | —     | —        | 1    | %    |
| Rise Time                   | T <sub>r</sub> | V <sub>ce</sub> =5V, I <sub>o</sub> =0.1mA, R <sub>L</sub> =1K | —     | 20000.00 | —    | ns   |
| Fall Time                   | T <sub>f</sub> | V <sub>ce</sub> =5V, I <sub>o</sub> =0.1mA, R <sub>L</sub> =1K | —     | 30000.00 | —    | ns   |

### Company Headquarters

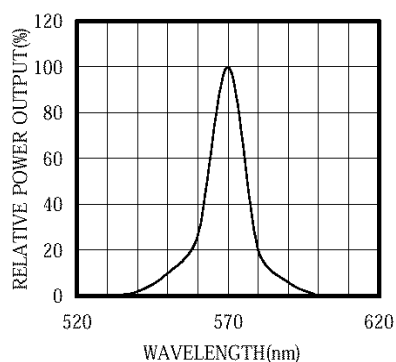
3 Northway Lane North  
Latham, New York 12110  
Toll Free: 800.984.5337  
Fax: 518.785.4725

### West Coast Sales Office

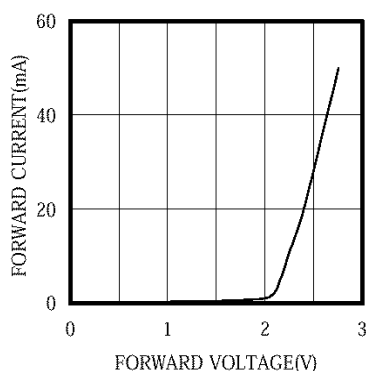
950 South Coast Drive, Suite 225  
Costa Mesa, California 92626  
Toll Free: 800.984.5337

## MTRS5750T Graphs

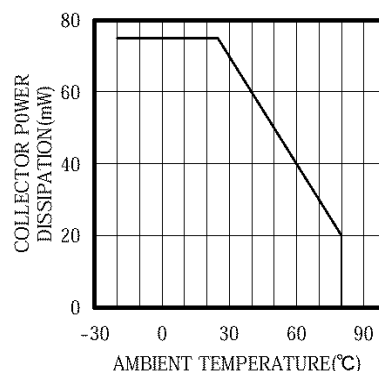
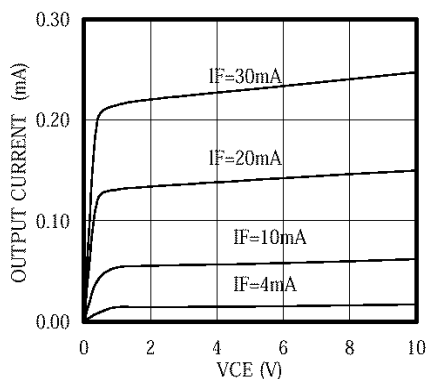
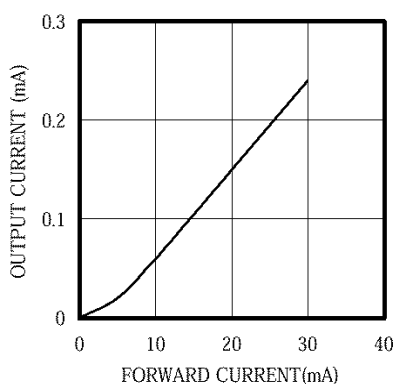
SPECTRAL OUTPUT



FORWARD I-V CHARACTERISTICS



THERMAL DERATING CURVE

 $I_o$  vs  $V_{CE}$  $I_F$  vs  $I_o$   
 $V_{CE} = 10V$ 

PO VS DISTANCE

