

## Peak Emission Wavelength: 670nm (2), 810nm (2), 950nm (2)

The MTMD6894T38 is a multi-chip emitter designed for applications requiring various emission sources in a small, densely packaged area. These devices can be custom designed for specific wavelengths and outputs.

### FEATURES

- > Hermetically Sealed TO-5 Metal Can Package
- > High Reliability
- > High Output Power

### APPLICATIONS

- > Medical Instrumentation
- > Currency Validation
- > Biofluorescence Analysis



## Absolute Maximum Ratings (Ta=25°C)



| ITEMS                        | SYMBOL | RATINGS |            |     | UNIT |
|------------------------------|--------|---------|------------|-----|------|
|                              |        | 670     | 810        | 950 |      |
| Forward Current (DC)         | IF     | 50      | 100        | 100 | mA   |
| Forward Current (Pulse)*1    | IFP    | 0.5     | 1          | 1   | A    |
| Reverse Voltage              | VR     |         | 5          |     | V    |
| Power Dissipation            | PD     | 110     | 190        | 100 | mW   |
| Operating Temperature Range  | Topr   |         | -20 ~ +85  |     | °C   |
| Storage Temperature Range    | Tstg   |         | -30 ~ +100 |     | °C   |
| Junction Temperature         | Tj     |         | 100        |     | °C   |
| Lead Soldering Temperature*2 | Tls    |         | 260        |     | °C   |

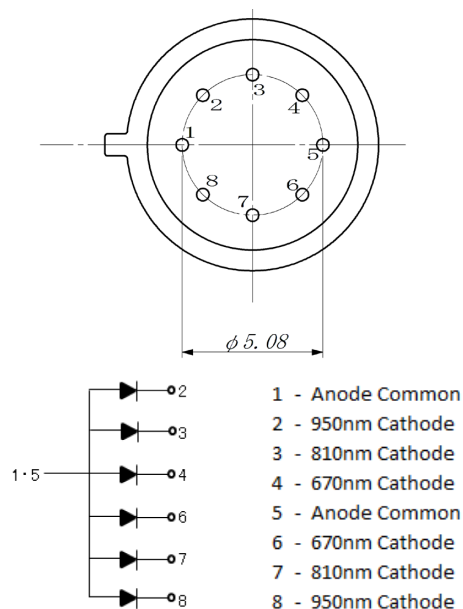
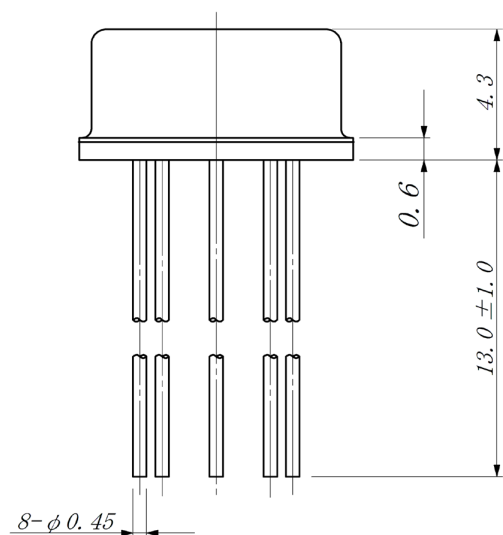
\*1: Tw=10μsec, T=10msec. \*2: Time 5 Sec max; Position: Up to 3mm from the body.

## Electrical & Optical Characteristics (Ta = 25°C)

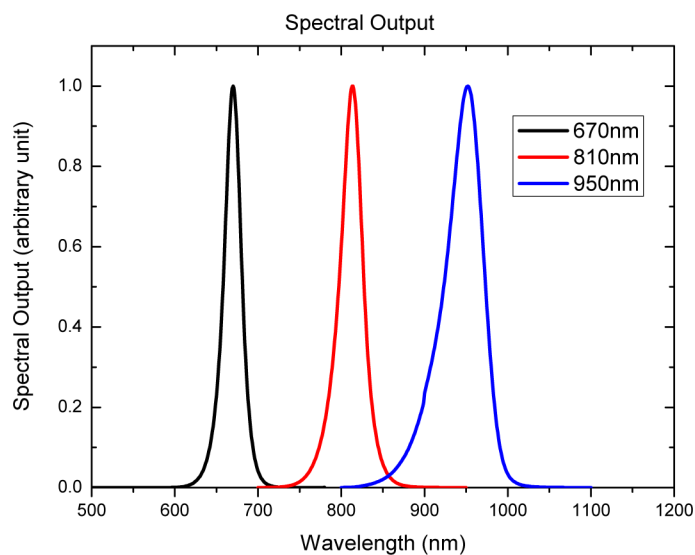
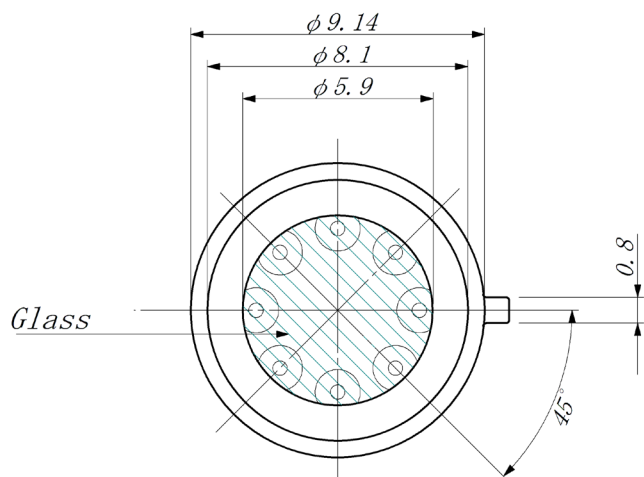
| ITEMS                    | SYMBOL | WAVELENGTH | CONDITIONS | MIN | TYP  | MAX | UNIT |
|--------------------------|--------|------------|------------|-----|------|-----|------|
| Forward Voltage          | VF     | 670        | IF=20mA    | --  | 1.8  | 2.2 | V    |
| Forward Voltage          | VF     | 810        | IF=20mA    | --  | 1.6  | 1.9 | V    |
| Forward Voltage          | VF     | 950        | IF=20mA    | --  | 1.25 | 1.9 | V    |
| Reverse Current          | IR     | --         | VR=5V      | --  | --   | 100 | μA   |
| Power Output             | PO     | 670        | IF=20mA    | --  | 3.1  | --  | mW   |
| Power Output             | PO     | 810        | IF=20mA    | --  | 3.0  | --  | mW   |
| Power Output             | PO     | 950        | IF=20mA    | --  | 7.0  | --  | mW   |
| Peak Emission Wavelength | λp     | 670        | IF=20mA    | --  | 670  | --  | nm   |
| Peak Emission Wavelength | λp     | 810        | IF=20mA    | --  | 810  | --  | nm   |
| Peak Emission Wavelength | λp     | 950        | IF=20mA    | --  | 950  | --  | nm   |
| Spectral Line Half Width | Δλ     | 670        | IF=20mA    | --  | 25   | --  | nm   |
| Spectral Line Half Width | Δλ     | 810        | IF=20mA    | --  | 30   | --  | nm   |

## Electrical & Optical Characteristics (Ta = 25°C) (Continued)

| ITEMS                    | SYMBOL          | WAVELENGTH | CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------|-----------------|------------|------------|-----|-----|-----|------|
| Spectral Line Half Width | $\Delta\lambda$ | 950        | IF=20mA    | --  | 45  | --  | nm   |



Unit: mm, Tolerance:  $\pm 0.2$



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