

Peak Emission Wavelength: 670nm, 770nm, 810nm, 850nm, 950nm

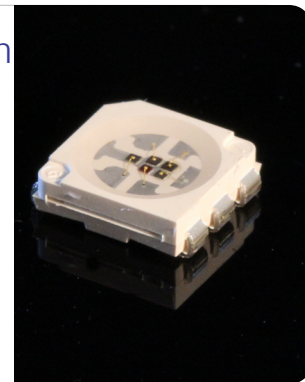
The MTMD6788594SMT6 is a multi-chip emitter designed for applications requiring same emission sources in a small, densely packaged area. These devices can be custom designed for specific wavelengths and outputs.

FEATURES

- > PLCC-6 Package
- > High Reliability
- > High Output Power

APPLICATIONS

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



Absolute Maximum Ratings (Ta=25°C)



| ITEMS | SYMBOL | RATINGS | | | | | UNIT |
|-----------------------------|--------|------------|-----|-----|-----|-----|------|
| | | 670 | 770 | 810 | 850 | 950 | |
| Forward Current (DC) | IF | 50 | 50 | 80 | 80 | 80 | mA |
| Forward Current (Pulse)*1 | IFP | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 | A |
| Reverse Voltage | VR | 5 | | | | | V |
| Power Dissipation | PD | 120 | 160 | 190 | 180 | 160 | mW |
| Operating Temperature Range | Topr | -20 ~ +80 | | | | | °C |
| Storage Temperature Range | Tstg | -30 ~ +100 | | | | | °C |

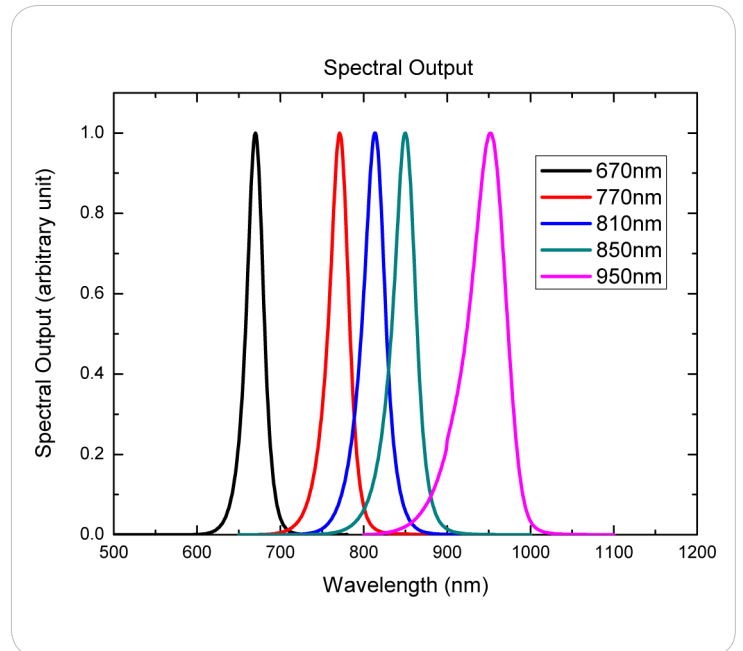
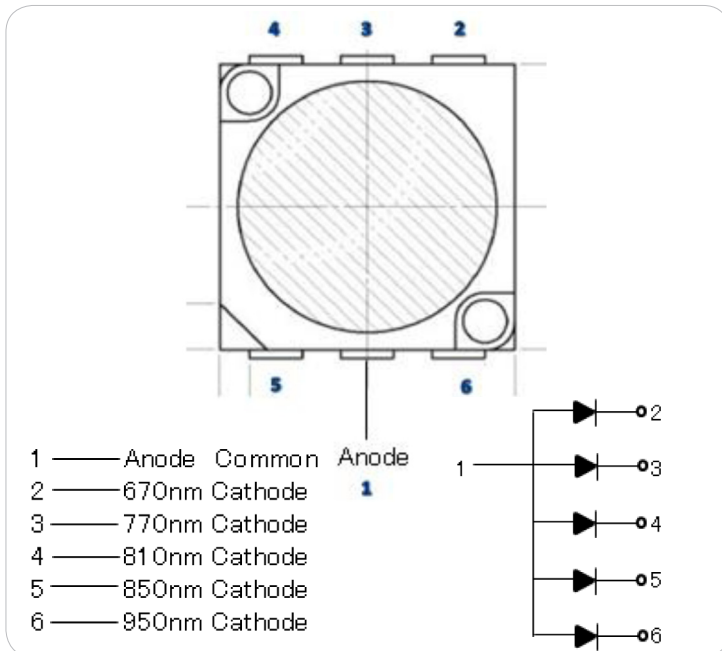
*1: Tw=10µsec, T=10msec.

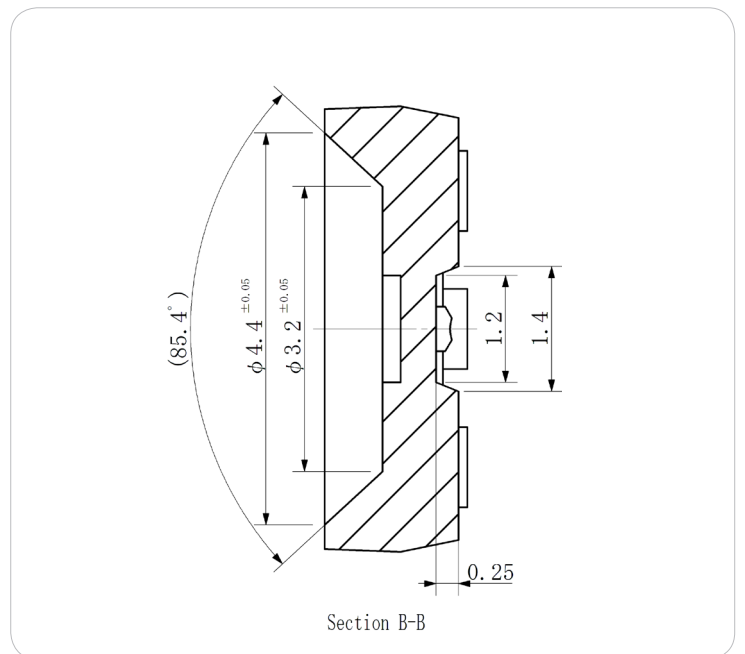
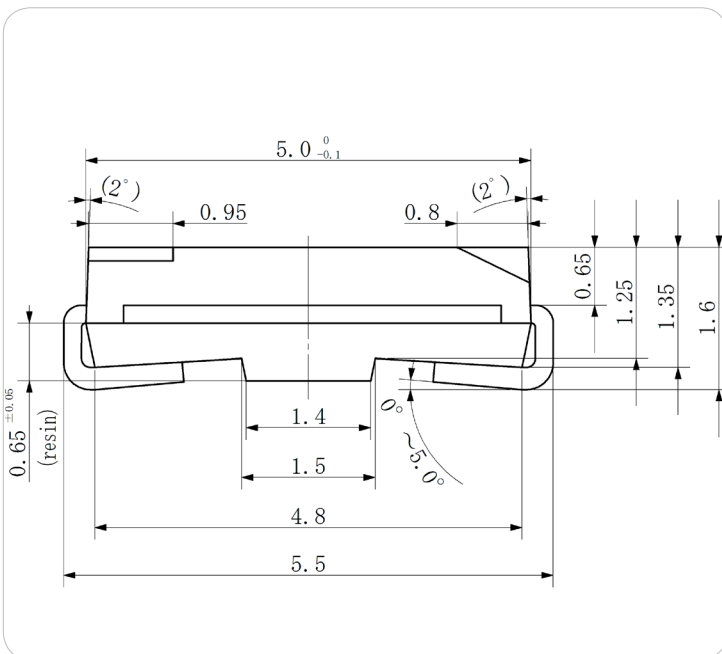
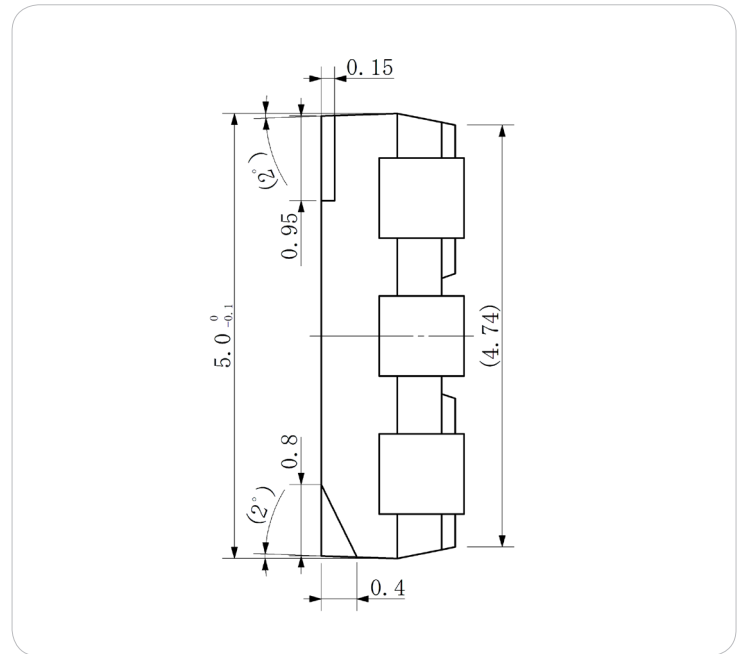
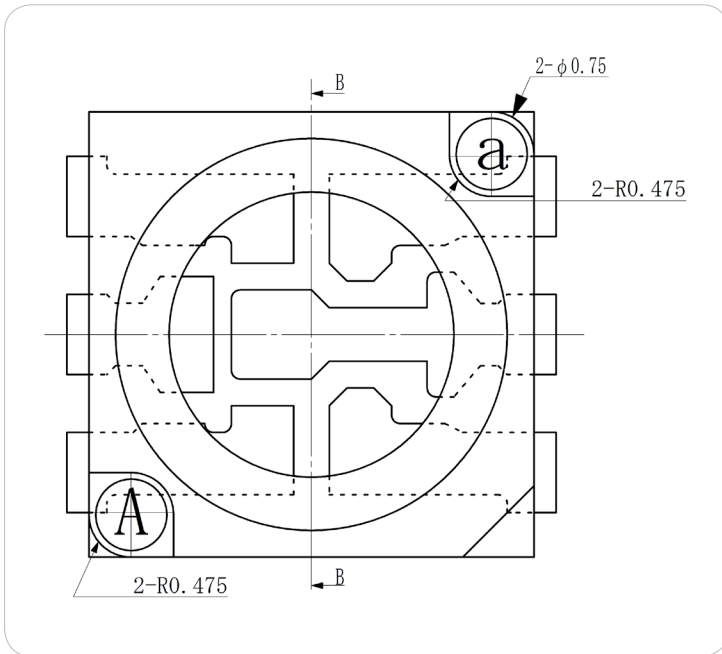
Electrical & Optical Characteristics (Ta = 25°C)

| ITEMS | SYMBOL | WAVELENGTH | CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------------|--------|------------|------------|-----|------|-----|------|
| Forward Voltage | VF | 670 | IF=20mA | -- | 1.8 | 2.2 | V |
| Forward Voltage | VF | 770 | IF=20mA | -- | 1.65 | 1.9 | V |
| Forward Voltage | VF | 810 | IF=20mA | -- | 1.50 | 2.1 | V |
| Forward Voltage | VF | 850 | IF=20mA | -- | 1.45 | 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 | -- | 5.2 | -- | mW |
| Power Output | PO | 770 | IF=20mA | -- | 6.3 | -- | mW |
| Power Output | PO | 810 | IF=20mA | -- | 5.2 | -- | mW |
| Power Output | PO | 850 | IF=20mA | -- | 4.7 | -- | mW |
| Power Output | PO | 950 | IF=20mA | -- | 7.6 | -- | mW |

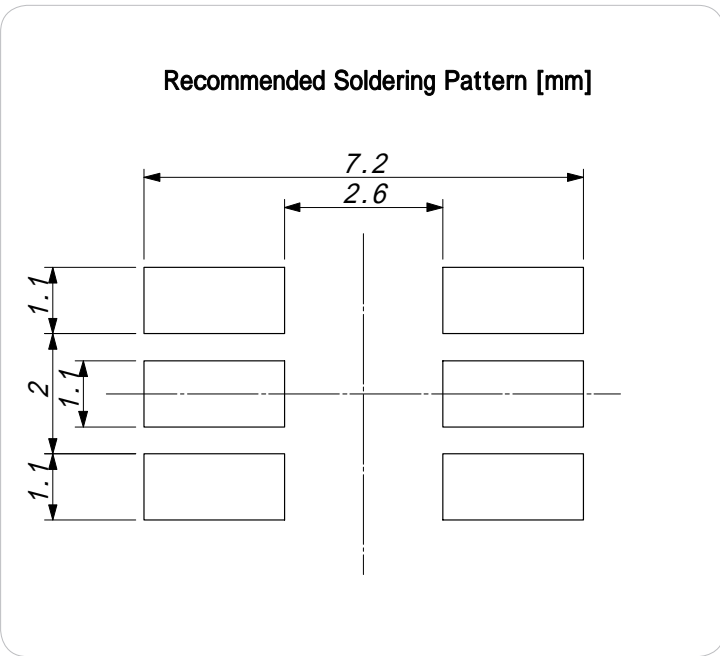
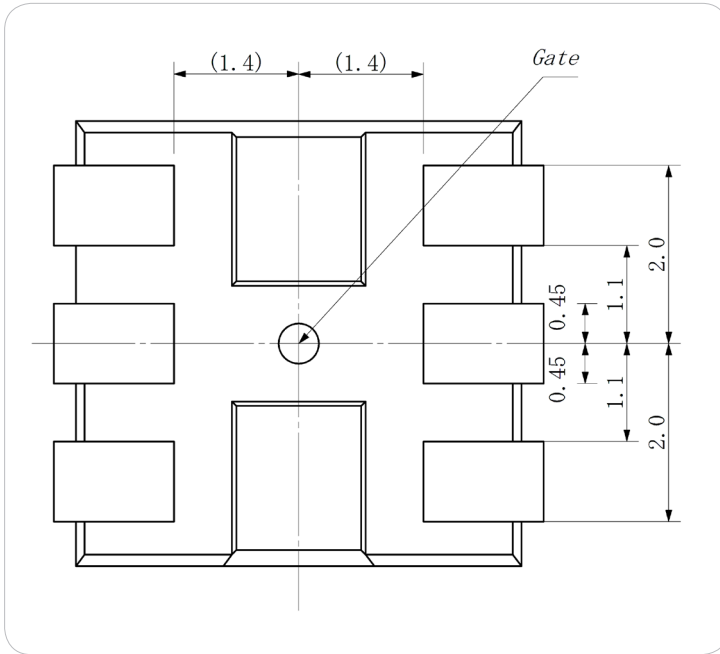
Electrical & Optical Characteristics (Ta = 25°C) (Continued)

| ITEMS | SYMBOL | WAVELENGTH | CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------|-----------------|------------|------------|-----|-----|-----|------|
| Peak Emission Wavelength | λ_p | 670 | IF=20mA | -- | 670 | -- | nm |
| Peak Emission Wavelength | λ_p | 770 | IF=20mA | -- | 770 | -- | nm |
| Peak Emission Wavelength | λ_p | 810 | IF=20mA | -- | 810 | -- | nm |
| Peak Emission Wavelength | λ_p | 850 | IF=20mA | -- | 850 | -- | nm |
| Peak Emission Wavelength | λ_p | 950 | IF=20mA | -- | 950 | -- | nm |
| Spectral Line Half Width | $\Delta\lambda$ | 670 | IF=20mA | -- | 25 | -- | nm |
| Spectral Line Half Width | $\Delta\lambda$ | 770 | IF=20mA | -- | 35 | -- | nm |
| Spectral Line Half Width | $\Delta\lambda$ | 810 | IF=20mA | -- | 35 | -- | nm |
| Spectral Line Half Width | $\Delta\lambda$ | 850 | IF=20mA | -- | 35 | -- | nm |
| Spectral Line Half Width | $\Delta\lambda$ | 950 | IF=20mA | -- | 45 | -- | nm |





Unit: mm, Tolerance: ± 0.2



Unit: mm, Tolerance: ± 0.2

Soldering Conditions:

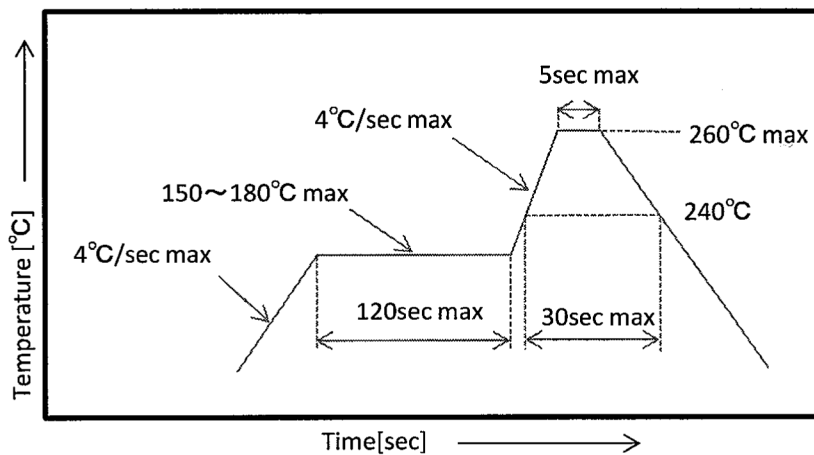
(1) Reflow Soldering

- a. Please implement the following temperature profile.
- b. Please do not handle the product until it has returned to ambient temperature.

(2) Hand Soldering

- a. Soldering tip temperature must be under 320°C.
- b. Soldering must be done within 3 seconds each.
- c. When soldering, do not add pressure to the resin portion.
- d. Please do not handle the product until it has returned to ambient temperature.

Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



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