

# FL850-03-80

## High Power type LED

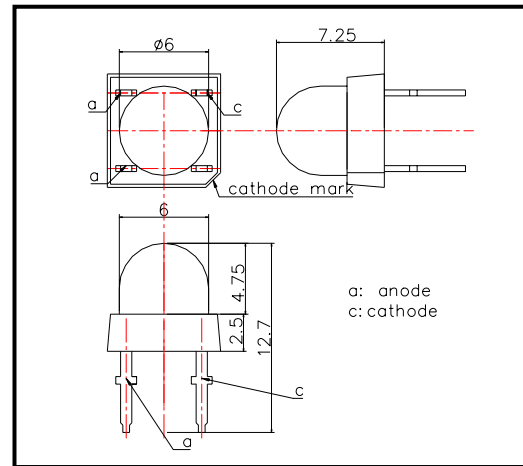
FL850-03-80 is an AlGaAs LED mounted on a lead frame and molded with super beam lens. On forward bias, it emits a band of visible light which peaks 850nm.

These devices are intended to be operated at pulsed current of 4A under maximum 4.5V for stable long life.

◆ Outer dimension (Unit: mm)

### ◆ Specifications

- 1) Product Name Super Flux mold type LED
- 2) Type No. FL850-03-80
- 3) Chip
  - (1) Chip Material GaAlAs
  - (2) Chip Dimension 800um\*800um
  - (3) Peak Wavelength 850nm typ.
- 4) Package
  - (1) Type Super Beam type LED
  - (2) Resin Material Epoxy Resin
  - (3) Lead Frame Soldered



### ◆ Absolute Maximum Ratings

| Item                  | Symbol    | Maximum Rated Value | Unit               | Ambient Temperature      |
|-----------------------|-----------|---------------------|--------------------|--------------------------|
| Power Dissipation     | $P_D$     | 310                 | mW                 | $T_a=25^{\circ}\text{C}$ |
| Forward Current       | $I_F$     | 200                 | mA                 | $T_a=25^{\circ}\text{C}$ |
| Pulse Forward Current | $I_{FP}$  | 4000                | mA                 | $T_a=25^{\circ}\text{C}$ |
| Reverse Voltage       | $V_R$     | 10                  | V                  | $T_a=25^{\circ}\text{C}$ |
| Operating Temperature | $T_{OPR}$ | $-30 \sim +85$      | $^{\circ}\text{C}$ |                          |
| Storage Temperature   | $T_{STG}$ | $-30 \sim +100$     | $^{\circ}\text{C}$ |                          |
| Soldering Temperature | $T_{SOL}$ | 260                 | $^{\circ}\text{C}$ |                          |

‡Pulse Forward Current condition: Duty=1% and Pulse Width=10us.

‡Soldering condition: Soldering condition must be completed within 3 seconds at 260°C

### ◆ Electro-Optical Characteristics [ $T_a=25^{\circ}\text{C}$ ]

| Item                   | Symbol          | Condition          | Minimum | Typical | Maximum | Unit          |
|------------------------|-----------------|--------------------|---------|---------|---------|---------------|
| Forward Voltage        | $V_F$           | $I_F=100\text{mA}$ |         | 1.4     | 1.5     | V             |
| Pulsed Forward Voltage | $V_F$           | $I_{FP}=4\text{A}$ |         | 3.3     | 4.5     | V             |
| Reverse Current        | $I_R$           | $V_R=10\text{V}$   |         |         | 10      | $\mu\text{A}$ |
| Total Radiated Power   | $P_O$           | $I_F=100\text{mA}$ | 35.0    | 60.0    |         | mW            |
| Radiant Intensity      | $I_E$           | $I_F=100\text{mA}$ |         | 230     |         | mW/sr         |
| Peak Wavelength        | $\lambda_P$     | $I_F=50\text{mA}$  | 840     | 850     | 860     | nm            |
| Half Width             | $\Delta\lambda$ | $I_F=50\text{mA}$  |         | 40      |         | nm            |
| Viewing Half Angle     | $\theta_{1/2}$  | $I_F=50\text{mA}$  |         | $\pm 8$ |         | deg.          |
| Rise Time              | $t_r$           | $I_F=50\text{mA}$  |         | 15      |         | ns            |
| Fall Time              | $t_f$           | $I_F=50\text{mA}$  |         | 10      |         | ns            |

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512.