



**QEE122 QEE123**

**ABSOLUTE MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

| Parameter                                       | Symbol      | Rating         | Unit             |
|---|-------------|----------------|------------------|
| Operating Temperature                           | $T_{OPR}$   | -40 to + 100   | $^\circ\text{C}$ |
| Storage Temperature                             | $T_{STG}$   | -40 to + 100   | $^\circ\text{C}$ |
| Soldering Temperature (Iron) <sup>(2,3,4)</sup> | $T_{SOL-I}$ | 240 for 5 sec  | $^\circ\text{C}$ |
| Soldering Temperature (Flow) <sup>(2,3)</sup>   | $T_{SOL-F}$ | 260 for 10 sec | $^\circ\text{C}$ |
| Continuous Forward Current                      | $I_F$       | 50             | mA               |
| Reverse Voltage                                 | $V_R$       | 5              | V                |
| Power Dissipation <sup>(1)</sup>                | $P_D$       | 100            | mW               |

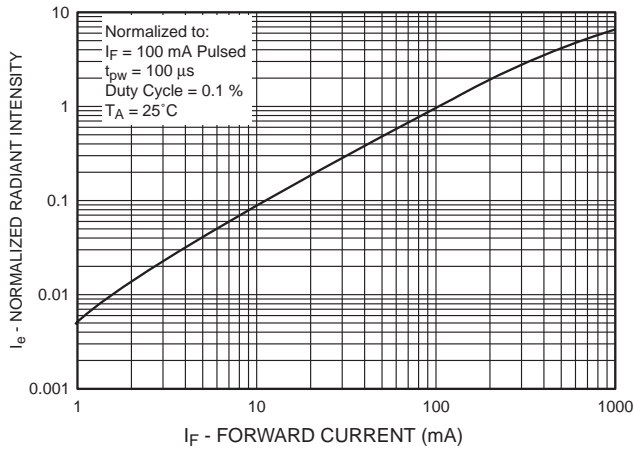
**NOTES:**

1. Derate power dissipation linearly 1.33 mW/ $^\circ\text{C}$  above 25 $^\circ\text{C}$ .
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. Soldering iron 1/16" (1.6 mm) minimum from housing

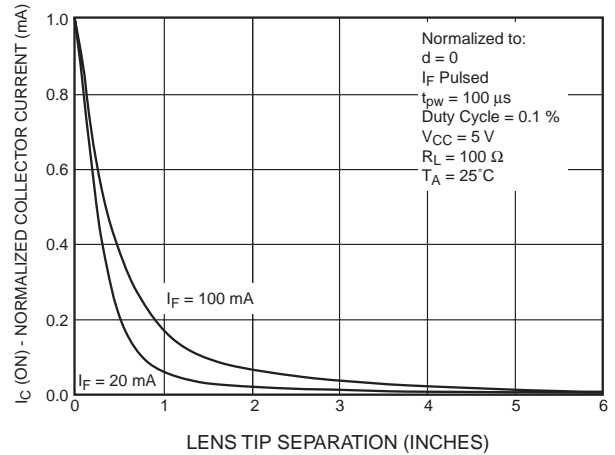
**ELECTRICAL / OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$ )

| Parameter                | Test Conditions                              | Symbol          | Min | Typ | Max | Units         |
|--------------------------|--|-----------------|-----|-----|-----|---------------|
| Peak Emission Wavelength | $I_F = 100\text{ mA}$                        | $\lambda_{PE}$  | —   | 880 | —   | nm            |
| Emission Angle           | $I_F = 100\text{ mA}$                        | $2\theta_{1/2}$ | —   | 50  | —   | Deg.          |
| Forward Voltage          | $I_F = 100\text{ mA}$ , $t_p = 20\text{ ms}$ | $V_F$           | —   | —   | 1.7 | V             |
| Reverse Current          | $V_R = 5\text{ V}$                           | $I_R$           | —   | —   | 10  | $\mu\text{A}$ |
| Radiant Intensity QEE122 | $I_F = 100\text{ mA}$ , $t_p = 20\text{ ms}$ | $I_E$           | 4   | —   | 16  | mW/sr         |
| Radiant Intensity QEE123 | $I_F = 100\text{ mA}$ , $t_p = 20\text{ ms}$ | $I_E$           | 8   | —   | —   | mW/sr         |
| Rise Time                | $I_F = 100\text{ mA}$                        | $t_r$           | —   | 800 | —   | ns            |
| Fall Time                |  | $t_f$           | —   | 800 | —   | ns            |

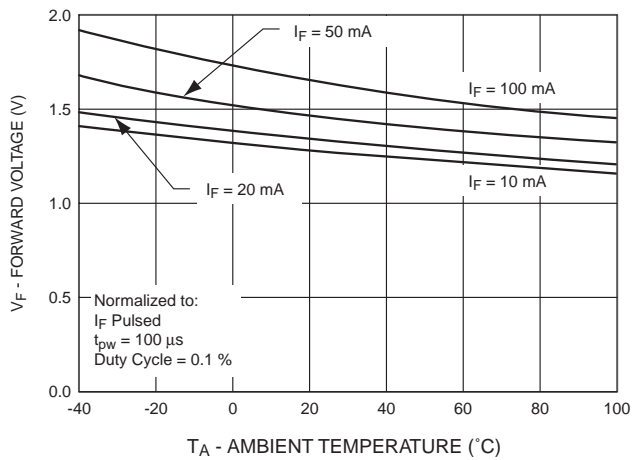
**Fig.1 Normalized Radiant Intensity vs. Forward Current**



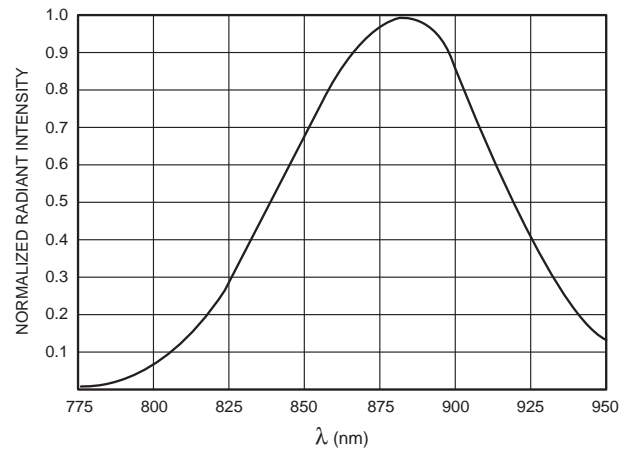
**Fig.2 Coupling Characteristics of QEE123 And QSE113**



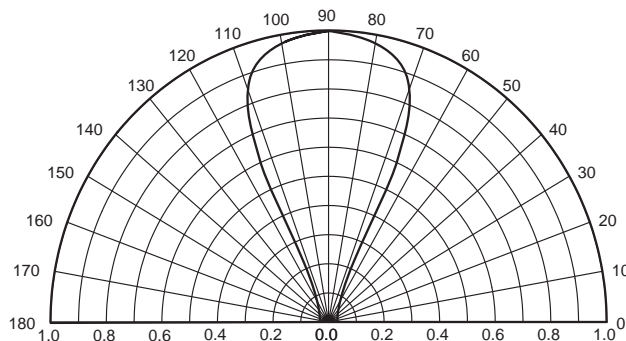
**Fig.3 Forward Voltage vs. Ambient Temperature**



**Fig. 4 Normalized Intensity vs. Wavelength**



**Fig. 5 Radiation Diagram**



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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.