Light in Motion

QTLP660CIR
SMD GaAs LED Emitter

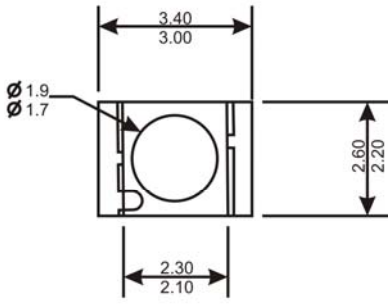
Features

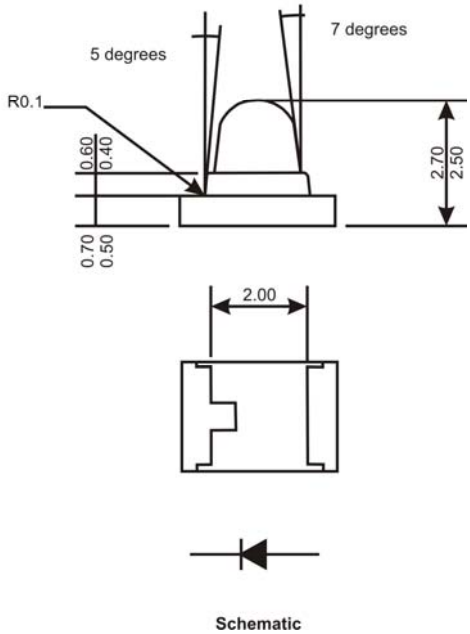
- 1.8mm Dome Lens
- 2000 units per reel
- 30° emission angle
- Clear epoxy lens
- Surface Mount Package
- High on axis output

Description

The QTLP660CIR is a GaAs LED Emitter in a SMD package with a dome shaped lens improving the focus of the on axis emissions resulting in improved outputs. Available in standard Tape and Reel packaging for automatic Insertion

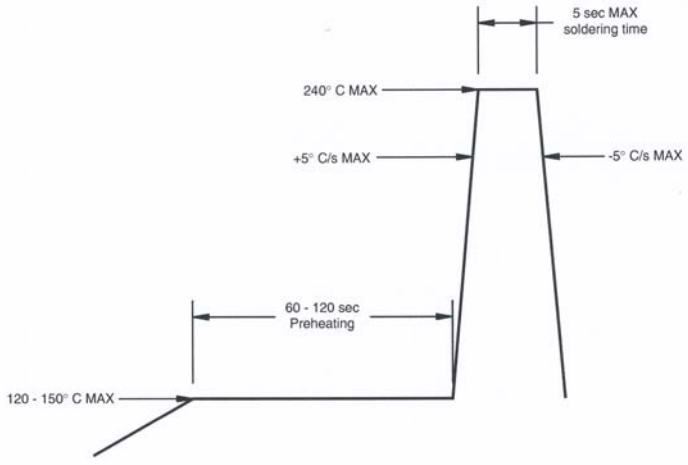
Package Dimensions





Schematic

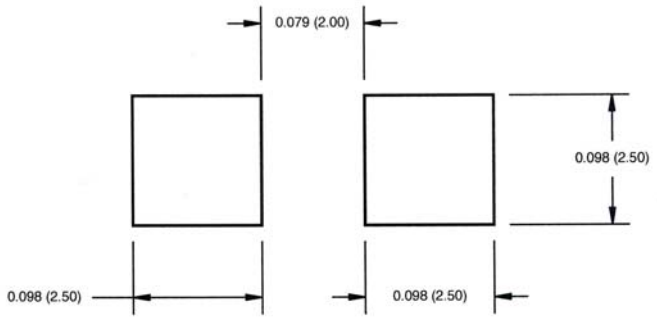
Recommended IR Reflow Profile



Notes:

1. Dimensions millimeters.
2. Tolerance of +/- 0.25mm on all non-nominal dimensions (unless otherwise stated).

Recommended Solder Screen Pattern



Absolute Maximum Ratings (T_A = 25^O C unless otherwise specified)
Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In Addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

Symbol	Parameter	Rating	Units
T_{OPR}	Operating Temperature	-40 to +85	^{o}C
T_{STG}	Storage Temperature	-40 to +90	^{o}C
T_{SOL-I}	Soldering Temperature (Iron) (1,2,3)	240 for 5 sec	^{o}C
T_{SOL-F}	Soldering Temperature (Flow) (1,2)	260 for 10 sec	^{o}C
I_F	Continuous Forward Current	65	mA
V_R	Reverse Voltage	5	V
P_D	Power Dissipation	130	mW
I_{FD}	Peak Forward Current (Pluse width = 100µs; Duty Cycle = 1%	1.0	A

Notes:
1. RMA Flux is recommended.
2. Methanol or isopropyl alcohols are recommended as cleaning agents.
3. Soldering iron tip at 1.6mm minimum from housing.
4. At 25 ^{o}C or below. See Fig. 1 for derating curve above 25 ^{o}C.

Electrical/Optical Characteristics (T_A = 25^O C)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
λ_P	Peak Emission Wavelength	I_F = 20mA		940		nm
Θ	Emission Angle	I_F = 20mA		$^+/_-$15		deg
V_F	Forward Voltage	I_F = 20mA		1.2	1.5	V
		I_F = 100mA; t_P = 100µs; Duty Cycle = 0.01		1.4	1.85	
		I_F = 1A; t_P = 100µs; Duty Cycle = 0.01		2.6	4	
I_R	Reverse Current	V_R = 5V			100	µA
E_e	Radiant Intensity	I_F = 20mA	1	3.0		mW/sr
		I_F = 100mA; t_P = 100µs; Duty Cycle = 0.01		14		
		I_F = 1A; t_P = 100µs; Duty Cycle = 0.01		140		
t_r	Rise Time	I_F = 100mA; t_P = 20ms		1		µs
t_f	Fall Time			1		µs

Typical Performance Characteristics

Fig. 1 Forward Current vs. Ambient Temperature

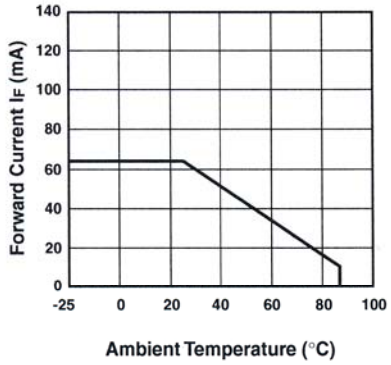


Fig. 2 Relative Radiant Intensity vs. Wavelength

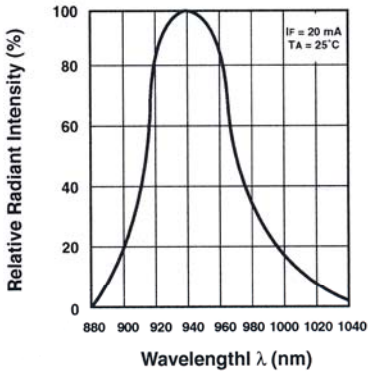


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

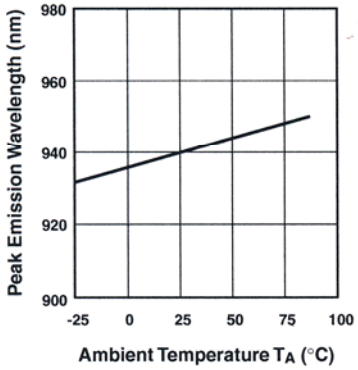


Fig. 4 Forward Current vs. Forward Voltage

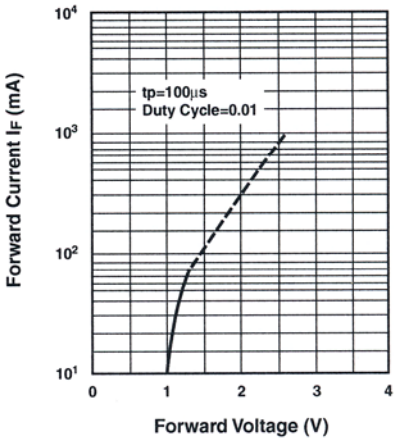


Fig. 5 Relative Intensity vs. Ambient Temperature (°C)

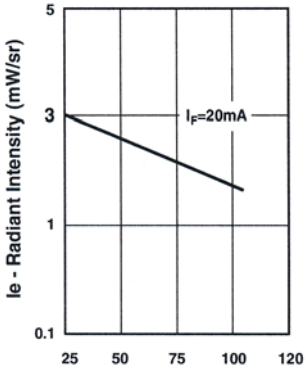


Fig. 6 Relative Radiant Intensity vs. Angular Displacement

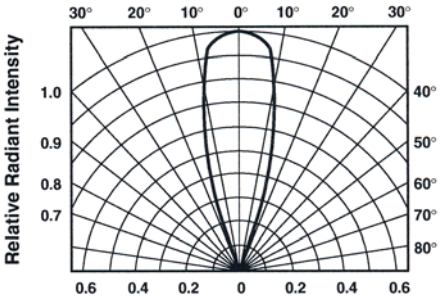
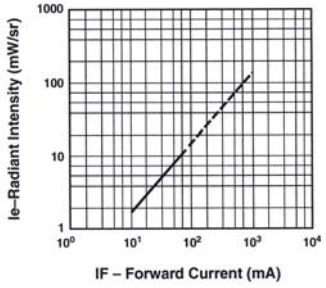
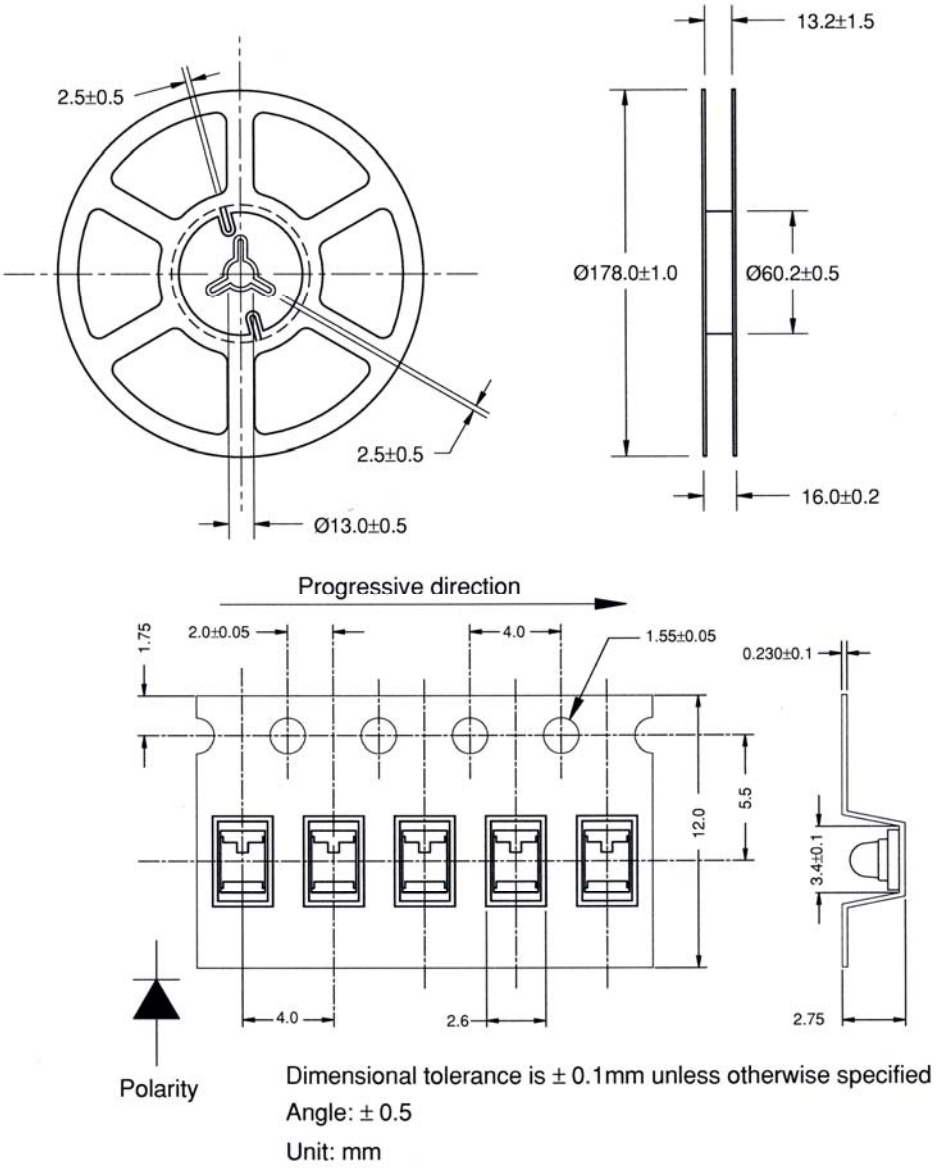


Fig. 7 Relative Intensity vs. Forward Current



Tape and Reel Dimensions



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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.