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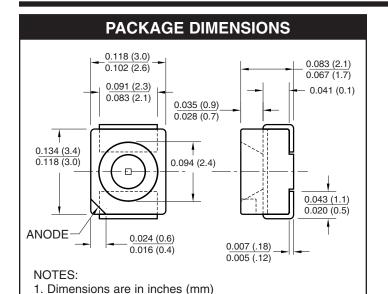
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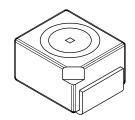
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## QEB421 SURFACE MOUNT INFRARED LIGHT EMITTING DIODE



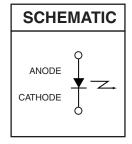
2. Tolerance of ± .010 (.25) on all non nominal dimensions

unless otherwise specified.



#### **FEATURES**

- Wavelength = 880 nm, AlGaAs
- Wide Emission Angle, 120°
- Surface Mount PLCC-2 Package
- High Power



<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>A</sub> = 25°C unless otherwise specified)							
Parameter	Symbol	Rating	Unit				
Operating Temperature	T <sub>opr</sub>	-55 to +100	°C				
Storage Temperature	T <sub>stg</sub>	-55 to +100	°C				
Soldering Temperature (Flow)(2,3)	T <sub>sol</sub>	260 for 10 sec	°C				
Continuous Forward Current	I <sub>F</sub>	100	mA				
Reverse Voltage	V <sub>R</sub>	5	V				
Peak Forward Current <sup>(4)</sup>	I <sub>FM</sub>	1.75	Α				
Power Dissipation <sup>(1)</sup>	P <sub>D</sub>	180	mW				

#### **NOTES**

- 1. Derate power dissipation linearly 2.4 mW/°C above 25°C.
- 2. RMA flux is recommended.
- Methanol or isopropyl alcohols are recommended as cleaning agents.
- 4. Pulse conditions; tp = 100  $\mu$ s, T = 10 ms.

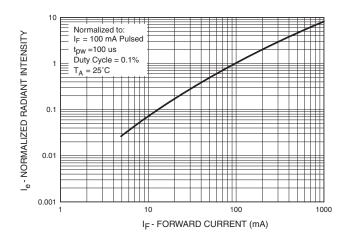
ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)									
PARAMETER	TEST CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNITS			
Peak Emission Wavelength	$I_F = 100 \text{ mA}$	$\lambda_{P}$	_	880	_	nm			
Spectral Bandwidth	$I_F = 100 \text{ mA}$	$\Delta \lambda$	_	80	_	nm			
Emission Angle	$I_F = 100 \text{ mA}$	θ	_	120	_	Deg.			
Forward Voltage	$I_F = 100 \text{ mA}, \text{ tp} = 20 \text{ ms}$	V <sub>F</sub>	_	1.5	1.8	V			
	$I_F = 1 \text{ A}, \text{ tp} = 100 \ \mu\text{s}$		_	3.0	3.8				
Reverse Current	V <sub>R</sub> = 5 V	I <sub>R</sub>	_	_	1	μΑ			
Radiant Intensity	$I_F = 100 \text{ mA}, \text{ tp} = 20 \text{ ms}$	le	4	_	8	mW/sr			
	$I_F = 1 \text{ A}, \text{ tp} = 100 \ \mu\text{s}$		_	48	_				
Radiant Flux	$I_F = 100 \text{ mA}, \text{ tp} = 20 \text{ ms}$	фе	_	10	_	mW			
Temp. Coeff. of I <sub>E</sub>	I <sub>F</sub> = 100 mA	T <sub>CI</sub>	_	-0.5	_	%/K			
Temp. Coeff. of V <sub>F</sub>	I <sub>F</sub> = 100 mA	T <sub>CV</sub>	_	-4	_	mV/K			
Temp. Coeff. of λ	I <sub>F</sub> = 100 mA	Τ <sub>Cλ</sub>	_	0.25	_	nm/K			
Rise Time	I <sub>F</sub> = 100 mA	t <sub>r</sub>	_	_	1	μs			
Fall Time		t <sub>f</sub>	_	_	1	μs			



# QEB421 SURFACE MOUNT INFRARED LIGHT EMITTING DIODE

#### **TYPICAL PERFORMANCE CURVES**

Fig. 1 Normalized Radiant Intensity vs. Forward Current



10<sup>2</sup> | I<sub>F</sub> Pulsed | I<sub>pw</sub> = 100 us | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | Duty Cycle = 0.1% | T<sub>A</sub> = 25°C | D

Fig. 2 Forward Current vs. Forward Voltage

Fig.3 Radiation Diagram

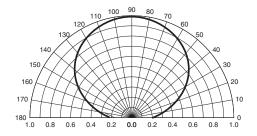


Fig. 4 Forward Voltage vs. Ambient Temperature

V<sub>F</sub> - FORWARD VOLTAGE (V)

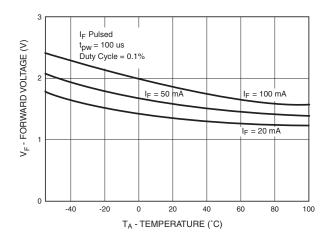


Fig. 5 Spectral Response (TBD)



## QEB421 SURFACE MOUNT INFRARED LIGHT EMITTING DIODE

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