

QTLP630C-R Red

QTLP630C-E Orange

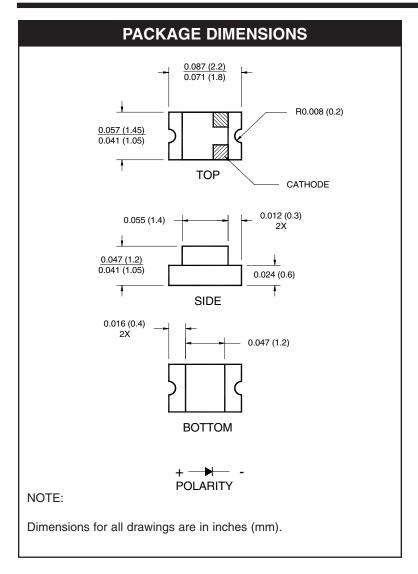
QTLP630C-O Yellow-Orange

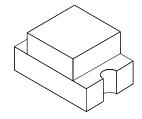
QTLP630C-Y Yellow

QTLP630C-AG Yellow-Green

QTLP630C-IG True Green

QTLP630C-IB Blue





#### **APPLICATIONS**

- · Keypad backlighting
- · Push-button backlighting
- LCD backlighting

#### **DESCRIPTION**

These surface mount chip LEDs are designed to fit industry standard footprint. Low profile and wide viewing angle make these LEDs ideal choices for backlighting applications and panel illumination.

#### **FEATURES**

- Small footprint 2.0(L) X 1.25(W) X 1.1(H) mm
- AllnGaP technology for -R, -E, -O, -Y and -AG
- InGaN/SiC technology for -IG and -IB
- $\bullet$  Wide viewing angle of 140°

- · Water clear optics
- · Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel



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QTLP630C-Y Yellow

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QTLP630C-IG True Green

QTLP630C-IB Blue

Parameter	0	QTLP630C					
	Symbol -	-R	-E	-0	-Y	-AG	Units
Continuous Forward Current	I <sub>F</sub>	30	30	30	25	30	mA
Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10)	I <sub>FM</sub>	160	160	160	120	160	mA
Reverse Voltage	V <sub>R</sub>	5	5	5	5	5	V
Power Dissipation	P <sub>D</sub>	72	72	72	60	72	mW
Operating Temperature	T <sub>OPR</sub>	-40 to +85				°C	
Storage Temperature	T <sub>STG</sub>	-40 to +90 °C					°C
Lead Soldering Time	T <sub>SOL</sub>			260 for 5 sec	;		°C

ABSOLUTE MAXIMUM RATINGS (TA =25°C Unless otherwise specified)					
		QTL	QTLP630C		
Parameter	Symbol	-IB	-IG	Units	
Continuous Forward Current	I <sub>F</sub>	30	30	mA	
Peak Forward Current	I <sub>FM</sub>	400	100	4	
(f = 1.0 KHz, Duty Factor = 1/10)		100	100	mA	
Reverse Voltage	V <sub>R</sub>	5	5	V	
Power Dissipation	P <sub>D</sub>	120	120	mW	
Operating Temperature	T <sub>OPR</sub>	-40	°C		
Storage Temperature	T <sub>STG</sub>	-40	°C		
Lead Soldering Time	T <sub>SOL</sub>	260 fo	or 5 sec	°C	



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ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)							
Part Number		QTLP630C					
	Symbol	-R	-E	-0	-Y	-AG	Condition
Luminous Intensity (mcd)							
Minimum	I <sub>V</sub>	15	15	15	15	10	$I_F = 20mA$
Typical		40	40	40	40	15	
Forward Voltage (V)							
Maximum	V <sub>F</sub>	2.4	2.4	2.4	2.4	2.4	$I_F = 20mA$
Typical		2.0	2.0	2.0	2.0	2.0	
Wavelength (nm)							
Peak	λ <sub>P</sub>	630	620	610	590	575	$I_F = 20mA$
Dominant	λ <sub>D</sub>	624	615	605	589	573	
Spectral Line Half Width (nm)	Δλ	20	18	18	15	20	$I_F = 20mA$
Viewing Angle (°)	201/ <sub>2</sub>	140	140	140	140	140	$I_F = 20mA$

ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)					
B. I.N. of a		QTLP630C			
Part Number	Symbol	-IB	-IG	Condition	
Luminous Intensity (mcd)					
Minimum	I <sub>V</sub>	20	75	$I_F = 20mA$	
Typical		25	120		
Forward Voltage (V)					
Maximum	V <sub>F</sub>	4.0	4.0	$I_F = 20mA$	
Typical		3.5	3.5		
Wavelength (nm)					
Peak	λ <sub>P</sub>	465	520	$I_F = 20mA$	
Dominant	λ <sub>D</sub>	470	525		
Spectral Line Half Width (nm)	Δλ	25	35	$I_F = 20mA$	
Viewing Angle (°)	201/ <sub>2</sub>	140	140	$I_F = 20 \text{mA}$	



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# TYPICAL PERFORMANCE CURVES (QTLP630C-R, -E, -O, -Y and -AG)

Fig. 1 Forward Current vs. Forward Voltage

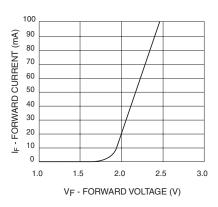


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

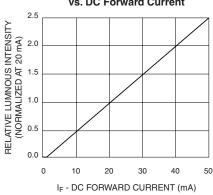


Fig. 3 Relative Intensity vs. Peak Wavelength

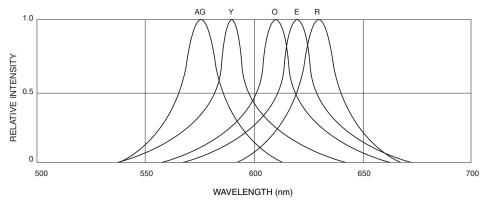


Fig.4 Radiation Diagram

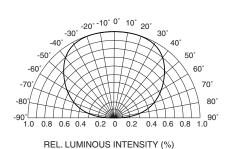
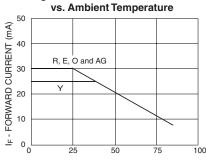


Fig.5 Maximum Forward Current



AMBIENT TEMPERATURE T<sub>A</sub> (°C)



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QTLP630C-O Yellow-Orange

QTLP630C-Y Yellow

QTLP630C-AG Yellow-Green

QTLP630C-IG True Green

QTLP630C-IB Blue

# TYPICAL PERFORMANCE CURVES (QTLP630C-IG and IB)

Fig. 1 Forward Current vs. Forward Voltage

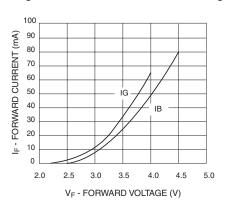


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

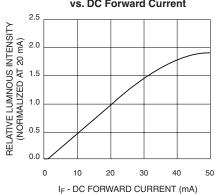


Fig. 3 Relative Intensity vs. Peak Wavelength

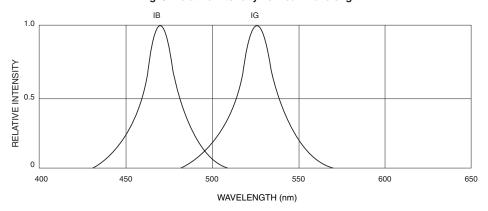


Fig.4 Radiation Diagram

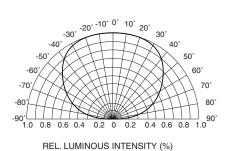
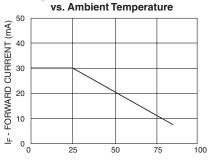


Fig.5 Maximum Forward Current



AMBIENT TEMPERATURE T<sub>A</sub> (°C)



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QTLP630C-O Yellow-Orange

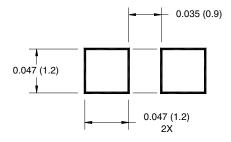
QTLP630C-Y Yellow

QTLP630C-AG Yellow-Green

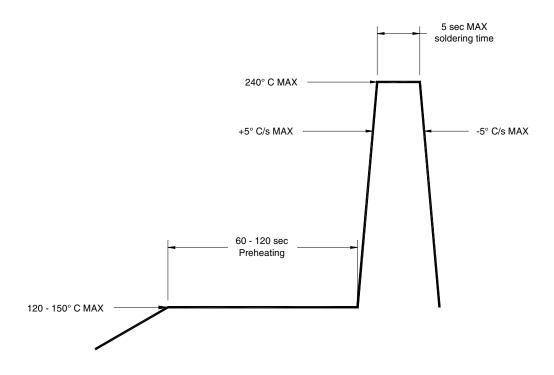
QTLP630C-IG True Green

QTLP630C-IB Blue

#### RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



#### RECOMMENDED IR REFLOW SOLDERING PROFILE





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QTLP630C-O Yellow-Orange

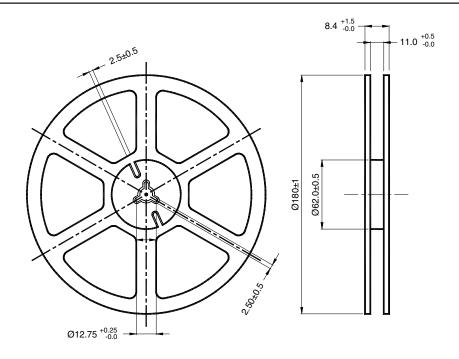
QTLP630C-Y Yellow

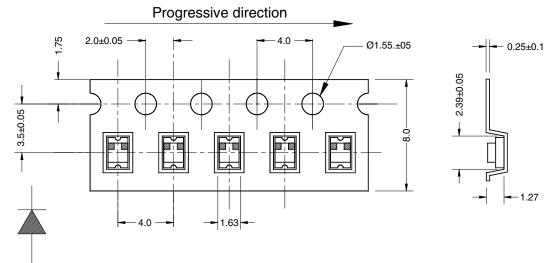
QTLP630C-AG Yellow-Green

QTLP630C-IG True Green

QTLP630C-IB Blue

### TAPE AND REEL DIMENSIONS





Polarity Dimensional tolerance is ± 0.1mm unless otherwise specified

Angle: ± 0.5 Unit: mm



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- 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.



## Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Packing method
QTLP630CIGTR	Full Production	\$0.79	SMD	TAPE REEL

<sup>\* 1,000</sup> piece Budgetary Pricing

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#### Applications

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

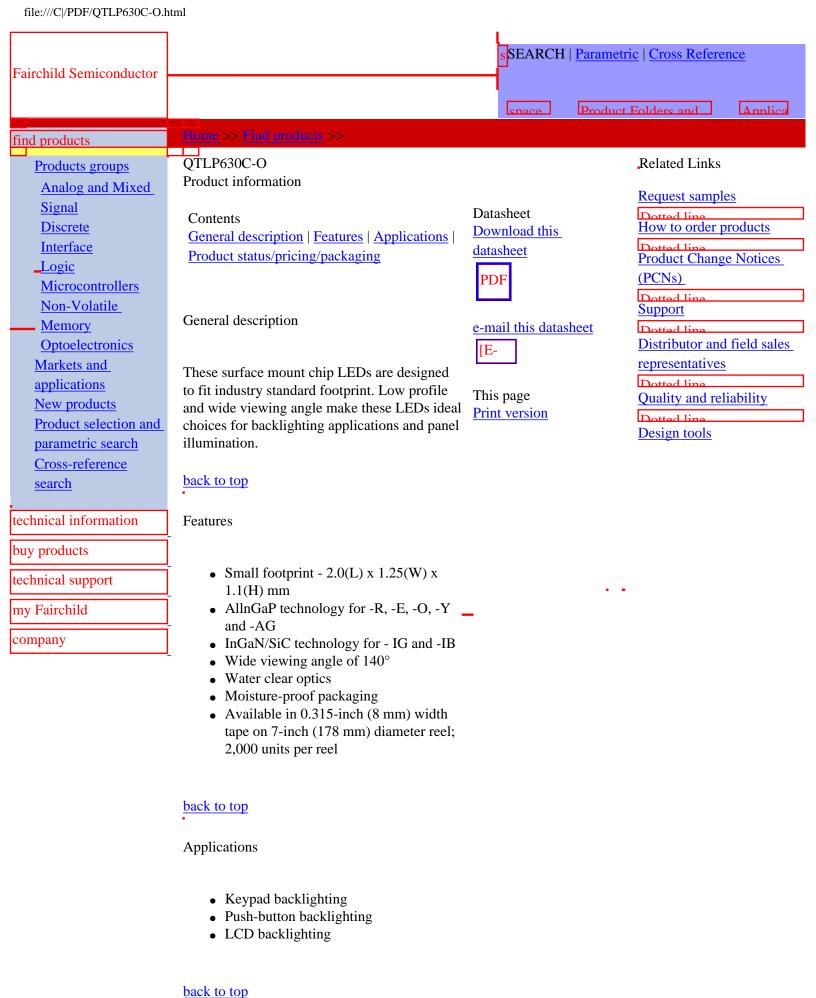
## Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Packing method
QTLP630C-R.TR	Full Production	\$0.071	SMD	TAPE REEL

<sup>\* 1,000</sup> piece Budgetary Pricing

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# Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Packing method
QTLP630COTR	Full Production	\$0.071	SMD	TAPE REEL

<sup>\* 1,000</sup> piece Budgetary Pricing

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#### Applications

Keypad backlighting

2,000 units per reel

- Push-button backlighting
- LCD backlighting

## Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Packing method
QTLP630C-Y.TR	Full Production	\$0.071	SMD	TAPE REEL

<sup>\* 1,000</sup> piece Budgetary Pricing

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• LCD backlighting

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## Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Packing method
QTLP630CIBTR	Full Production	\$0.67	SMD	TAPE REEL

<sup>\* 1,000</sup> piece Budgetary Pricing

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#### Applications

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

## Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Packing method
QTLP630C-E.TR	Full Production	\$0.071	SMD	TAPE REEL

<sup>\* 1,000</sup> piece Budgetary Pricing

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#### **Applications**

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

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# Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Packing method
QTLP630CAGTR	Full Production	\$0.088	SMD	TAPE REEL

<sup>\* 1,000</sup> piece Budgetary Pricing

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