

QTLP601C-R Red

QTLP601C-E Orange

QTLP601C-O Yellow-Orange

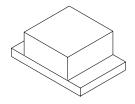
QTLP601C-Y Yellow

QTLP601C-AG Yellow-Green

QTLP601C-IG True Green

QTLP601C-IB Blue

PACKAGE DIMENSIONS 0.071 (1.8) 0.055 (1.4) 0.035 (0.9) 0.028 (0.7) TOP 0.047 (1.2) 0.004 (0.1) 0.024 (0.6) SIDE 0.039 (1.0) CATHODE **BOTTOM POLARITY** NOTE: Dimensions for all drawings are in inches (mm).



APPLICATIONS

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

DESCRIPTION

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

FEATURES

- Small footprint 1.6(L) X 0.8(W) X 0.6(H) mm
- AllnGaP technology for -R, -E, -O, -Y and -AG
- InGaN/SiC technology for -IG and -IB
- \bullet Wide viewing angle of 120°

- · 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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ABSOLUTE MAXIMUM RATINGS (TA =25°C Unless otherwise specified)							
Barrier	0 1 1		QTLP601C				
Parameter	Symbol	-R	-E	-0	-Y	-AG	Units
Continuous Forward Current	I _F	30	30	30	25	30	mA
Peak Forward Current		160	160	160	120	160	m A
(f = 1.0 KHz, Duty Factor = 1/10)	I _{FM}	160	160	160	120	160	mA
Reverse Voltage	V_{R}	5	5	5	5	5	V
Power Dissipation	P _D	72	72	72	60	72	mW
Operating Temperature	T _{OPR}	-40 to +85				°C	
Storage Temperature	T _{STG}	-40 to +90 °			°C		
Lead Soldering Time	T _{SOL}			260 for 5 sec	;		°C

ABSOLUTE MAXIMUM RATINGS (TA =25°C Unless otherwise specified)					
		QTL	QTLP601C		
Parameter	Symbol	-IB	-IG	Units	
Continuous Forward Current	I _F	30	30	mA	
Peak Forward Current	I _{FM}	100	100	^	
(f = 1.0 KHz, Duty Factor = 1/10)		100	100	mA	
Reverse Voltage	V _R	5	5	V	
Power Dissipation	P _D	120	120	mW	
Operating Temperature	T _{OPR}	-40	°C		
Storage Temperature	T _{STG}	-40	°C		
Lead Soldering Time	T _{SOL}	260 f	or 5 sec	°C	



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ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)							
Part Number				QTLP601C			
	Symbol	-R	-E	-0	-Y	-AG	Condition
Luminous Intensity (mcd)							
Minimum	I _V	15	15	15	15	10	$I_F = 20mA$
Typical		35	35	35	35	15	
Forward Voltage (V)							
Maximum	V _F	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 _P	630	620	610	590	575	$I_F = 20mA$
Dominant	λ _D	624	615	605	589	573	
Spectral Line Half Width (nm)	Δλ	20	18	18	15	20	$I_F = 20mA$
Viewing Angle (°)	201/ ₂	120	120	120	120	120	$I_F = 20mA$

ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)					
		QTLF	P601C		
Part Number	Symbol	-IB	-IG	Condition	
Luminous Intensity (mcd)					
Minimum	I _V	15	50	$I_F = 20mA$	
Typical		25	70		
Forward Voltage (V)					
Maximum	V _F	4.0	4.0	$I_F = 20mA$	
Typical		3.5	3.5		
Wavelength (nm)					
Peak	λ _P	465	520	$I_F = 20mA$	
Dominant	λ _D	470	525		
Spectral Line Half Width (nm)	Δλ	25	35	$I_F = 20mA$	
Viewing Angle (°)	201/2	120	120	I _F = 20mA	



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TYPICAL PERFORMANCE CURVES (QTLP601C-R, -E, -O, -Y and -AG)

Fig. 1 Forward Current vs. Forward Voltage

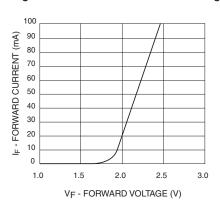


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

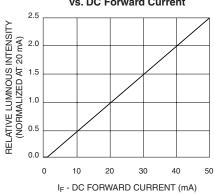


Fig. 3 Relative Intensity vs. Peak Wavelength

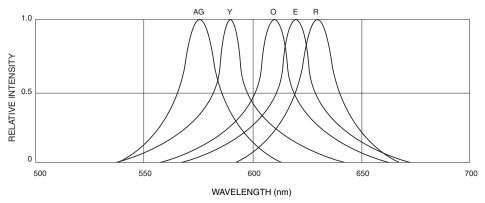


Fig.4 Radiation Diagram

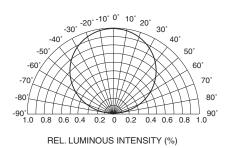
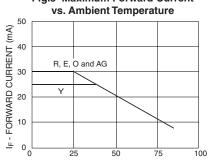


Fig.5 Maximum Forward Current



AMBIENT TEMPERATURE TA (°C)



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QTLP601C-IB Blue

TYPICAL PERFORMANCE CURVES (QTLP601C-IG and IB)

Fig. 1 Forward Current vs. Forward Voltage

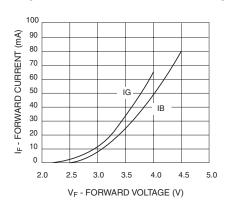


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

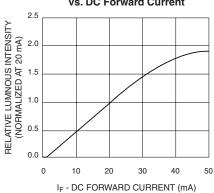


Fig. 3 Relative Intensity vs. Peak Wavelength

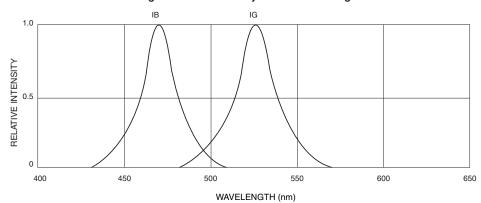


Fig.4 Radiation Diagram

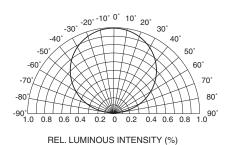
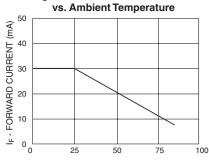


Fig.5 Maximum Forward Current



AMBIENT TEMPERATURE TA (°C)



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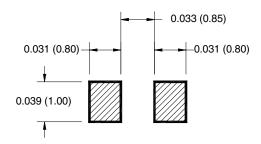
QTLP601C-Y Yellow

QTLP601C-AG Yellow-Green

QTLP601C-IG True Green

QTLP601C-IB Blue

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



Preheating PRECOMMENDED IR REFLOW SOLDERING PROFILE 240° C MAX +5° C/s MAX -5° C/s MAX



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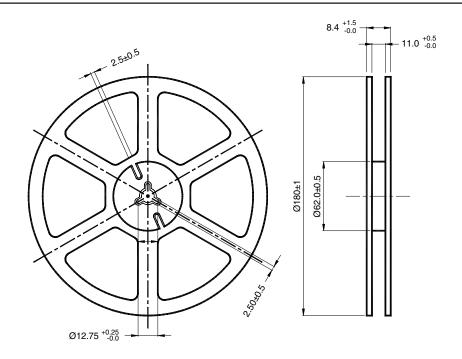
QTLP601C-Y Yellow

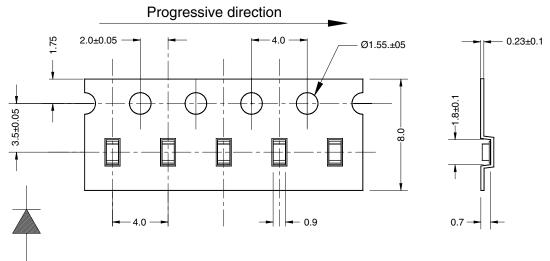
QTLP601C-AG Yellow-Green

QTLP601C-IG True Green

QTLP601C-IB Blue

TAPE AND REEL DIMENSIONS





Polarity Dimensional tolerance is ± 0.1 mm unless otherwise specified

Angle: ± 0.5 Unit: mm



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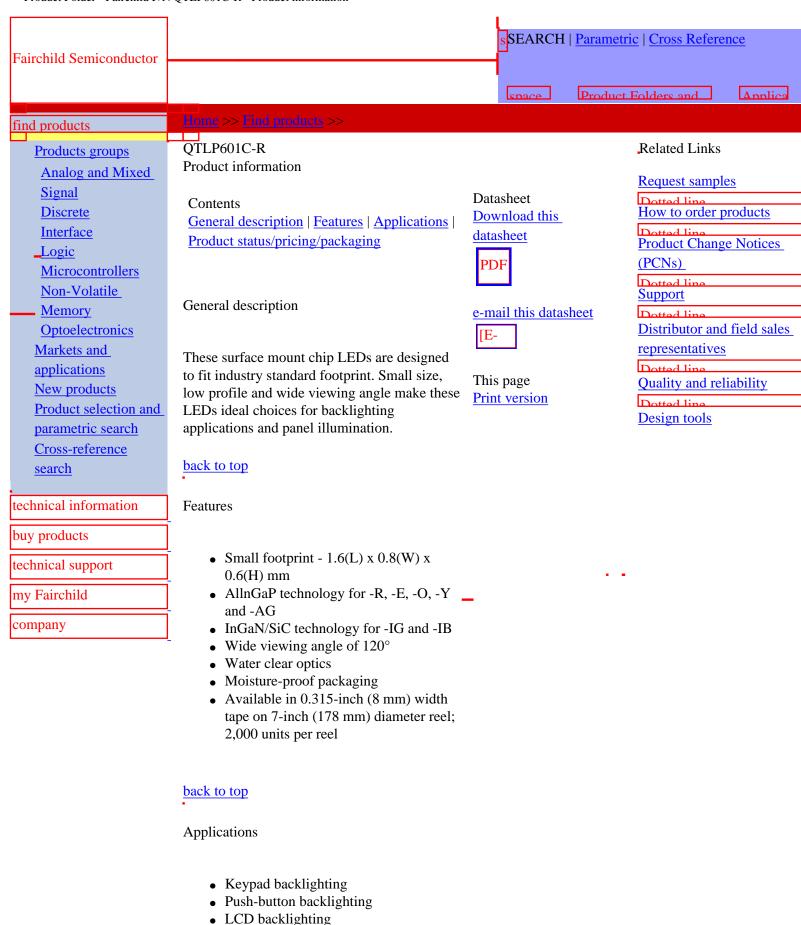


Product	Product status	Pricing*	Package type	Packing method
QTLP601CIGTR	Full Production	\$0.79	SMD	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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Product	Product status	Pricing*	Package type	Packing method
QTLP601CRTR	Full Production	\$0.054	SMD	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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Product	Product status	Pricing*	Package type	Packing method
QTLP601COTR	Full Production	\$0.054	SMD	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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back to top

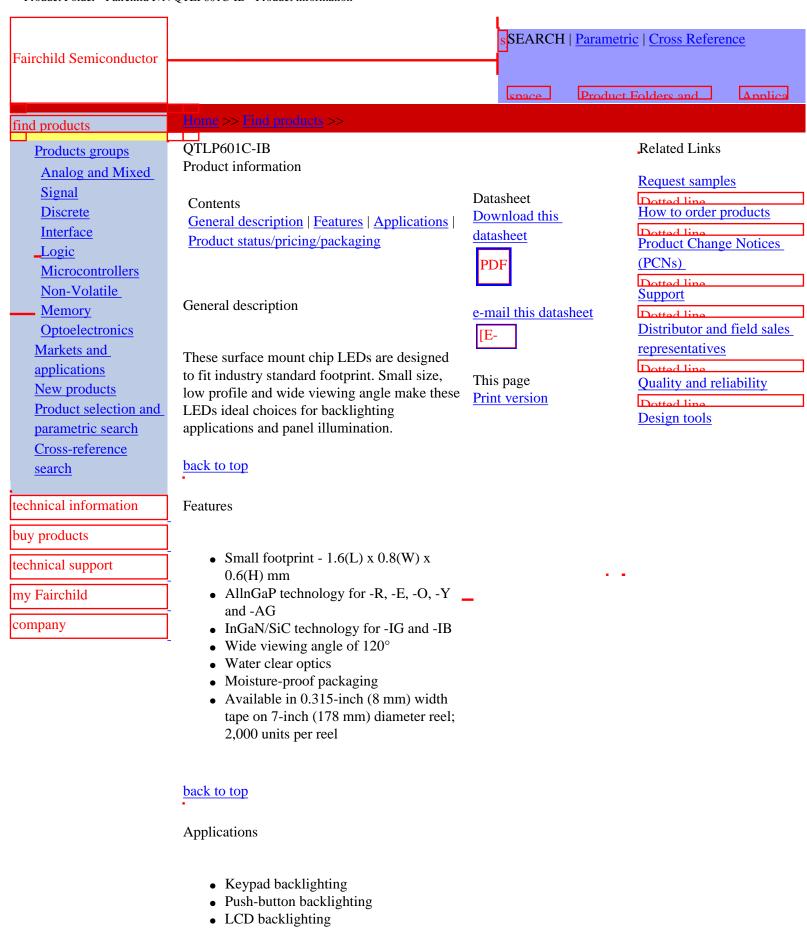
• LCD backlighting

Product	Product status	Pricing*	Package type	Packing method
QTLP601CYTR	Full Production	\$0.054	SMD	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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Product	Product status	Pricing*	Package type	Packing method
QTLP601CIBTR	Full Production	\$0.67	SMD	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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Product	Product status	Pricing*	Package type	Packing method
QTLP601CETR	Full Production	\$0.054	SMD	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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Product	Product status	Pricing*	Package type	Packing method
QTLP601CAGTR	Full Production	\$0.071	SMD	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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