

QTLP610C-R Red

QTLP610C-E Orange

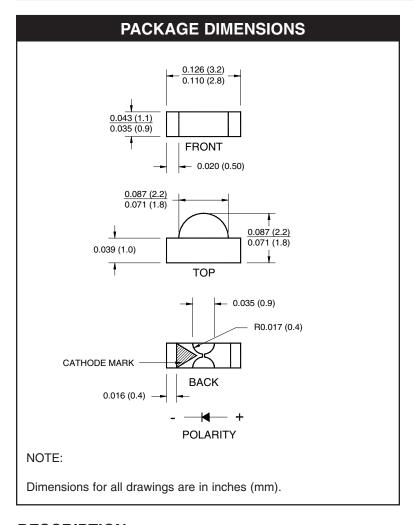
QTLP610C-O Yellow-Orange

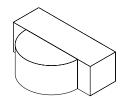
QTLP610C-Y Yellow

QTLP610C-AG Yellow-Green

QTLP610C-IG True Green

QTLP610C-IB Blue





APPLICATIONS

- LCD edge-lighting
- Edge card edge-lighting

DESCRIPTION

These super bright right angle surface mount chip LEDs emit light in the lateral direction. Small size and wide viewing angle make these LEDs ideal choices for status indication in consumer electronics, industrial control and other applications.

FEATURES

- Small footprint 3.0(L) X 2.0(W) X 1.0(H) mm
- AllnGaP technology for -R, -E, -O, -Y and -AG
- InGaN/SiC technology for -IG and -IB
- Wide viewing angle of 120°
- · Water clear optics
- 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)							
		QTLP610C					
Parameter	Symbol	-R	-E	-0	-Y	-AG	Units
Continuous Forward Current	I _F	30	30	30	25	30	mA
Peak Forward Current		100	100	100	100	100	Л
(f = 1.0 KHz, Duty Factor = 1/10)	IFM	160	160	160	120	160	mA
Reverse Voltage (I _R = 10 μA)	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

Danamatan	0	QTL	LP610C		
Parameter	Symbol	-IB	-IG	Units	
Continuous Forward Current	I _F	30	30	mA	
Peak Forward Current		400	100		
(f = 1.0 KHz, Duty Factor = 1/10)	IFM	I _{FM} 100	100	mA	
Reverse Voltage (I _R = 10 μA)	V _R	5	5	V	
Power Dissipation	P _D	120	120	mW	
Operating Temperature	T _{OPR}	-40 to +85			
Storage Temperature	T _{STG}	-40 to +90			
Lead Soldering Time	T _{SOL}	260	for 5 sec	°C	



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ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)							
			QTLP610C				
Part Number	Symbol	-R	-E	-0	-Y	-AG	Condition
Luminous Intensity (mcd)							
Minimum	ly	20	20	20	20	10	I _F = 20mA
Typical		45	45	45	45	20	
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)					
		QTLI	P610C		
Part Number	Symbol	-IB	-IG	Condition	
Luminous Intensity (mcd)					
Minimum	I _V	20	60	$I_F = 20mA$	
Typical		30	100		
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 (QTLP610C-R, -E, -O, -Y and -AG)

Fig. 1 Forward Current vs. Forward Voltage

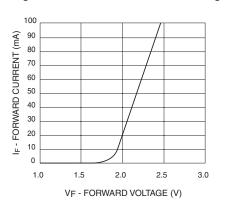


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

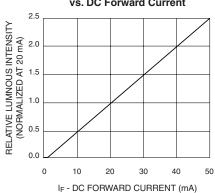


Fig. 3 Relative Intensity vs. Peak Wavelength

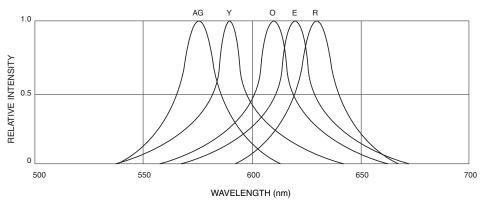


Fig.4 Radiation Diagram

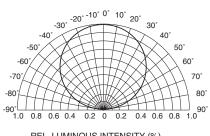
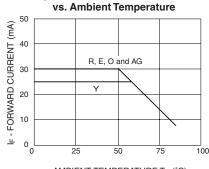


Fig.5 Maximum Forward Current



REL. LUMINOUS INTENSITY (%) AMBIENT TEMPERATURE T_A (°C)



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TYPICAL PERFORMANCE CURVES (QTLP610C-IG and -IB)

Fig. 1 Forward Current vs. Forward Voltage

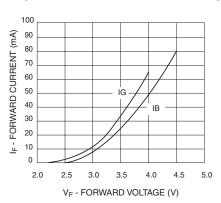


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

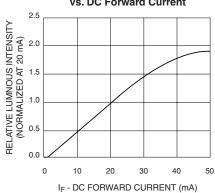


Fig. 3 Relative Intensity vs. Peak Wavelength

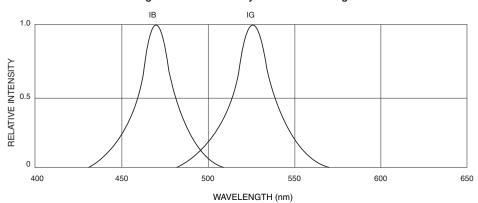


Fig.4 Radiation Diagram

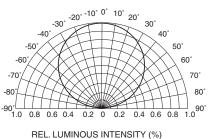
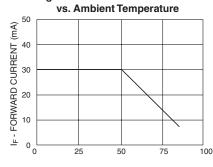


Fig.5 Maximum Forward Current



S INTENSITY (%)

AMBIENT TEMPERATURE T_A (°C)



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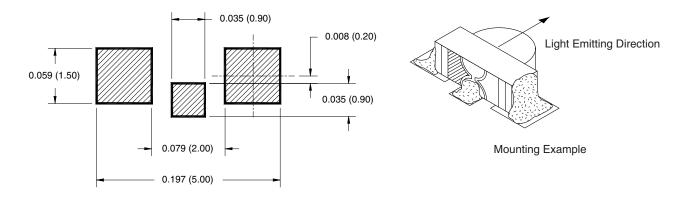
QTLP610C-Y Yellow

QTLP610C-AG Yellow-Green

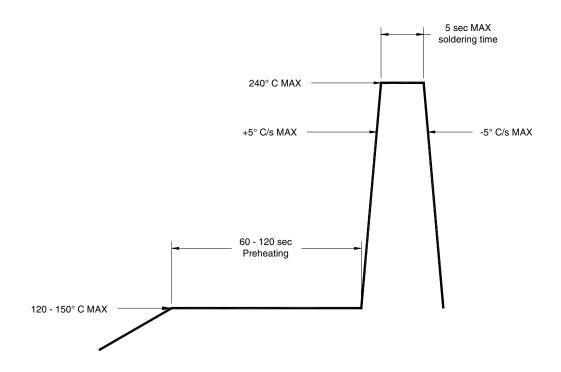
QTLP610C-IG True Green

QTLP610C-IB Blue

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE





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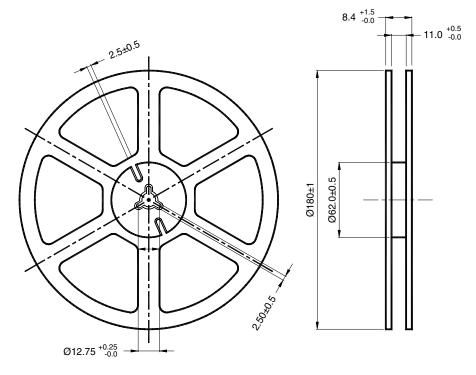
QTLP610C-Y Yellow

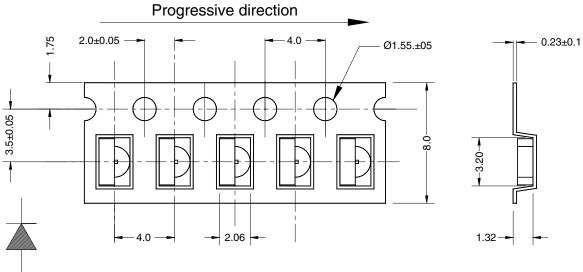
QTLP610C-AG Yellow-Green

QTLP610C-IG True Green

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TAPE AND REEL DIMENSIONS





Polarity Dimensional tolerance is ± 0.1mm unless otherwise specified

Angle: ± 0.5 Unit: mm



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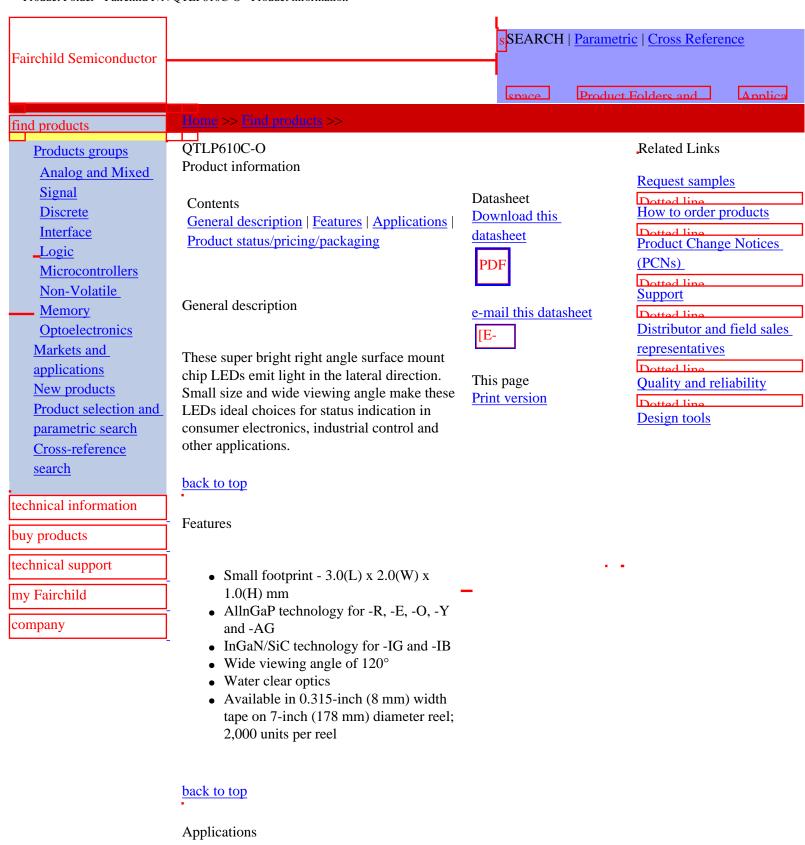
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• LCD edge-lighting

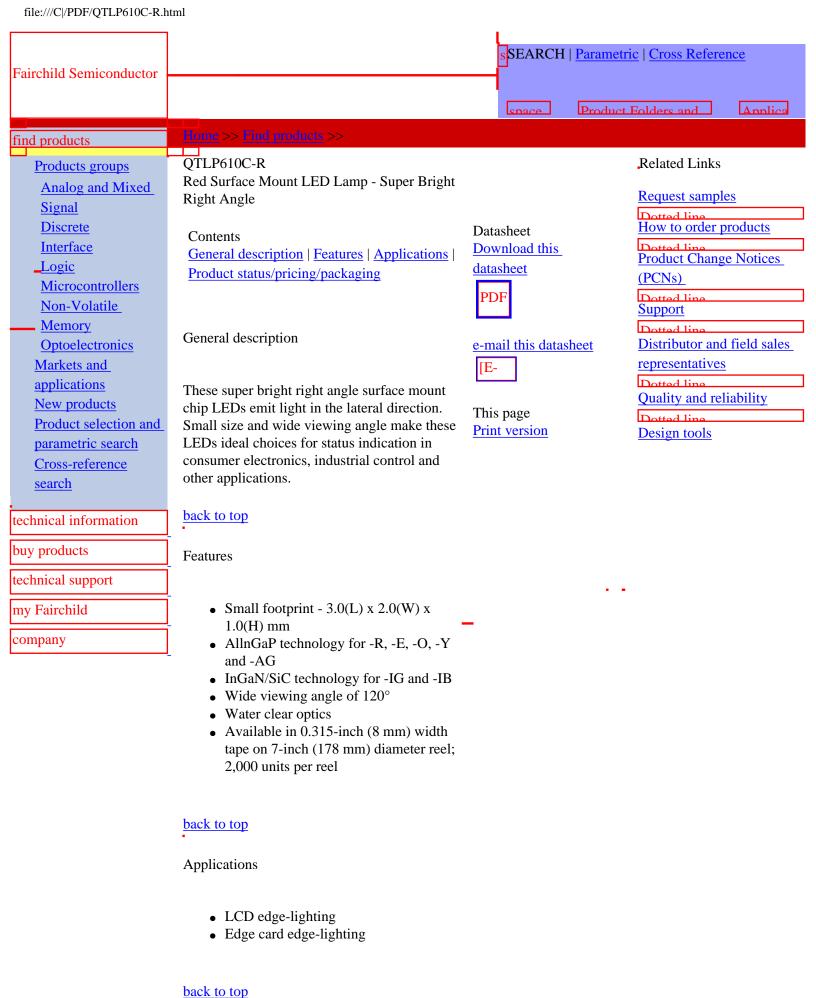
• Edge card edge-lighting

Pro	duct	Product status	Pricing*	Package type	Packing method
QTLP610	COTR	Full Production	\$0.071	SMD, Right Angle	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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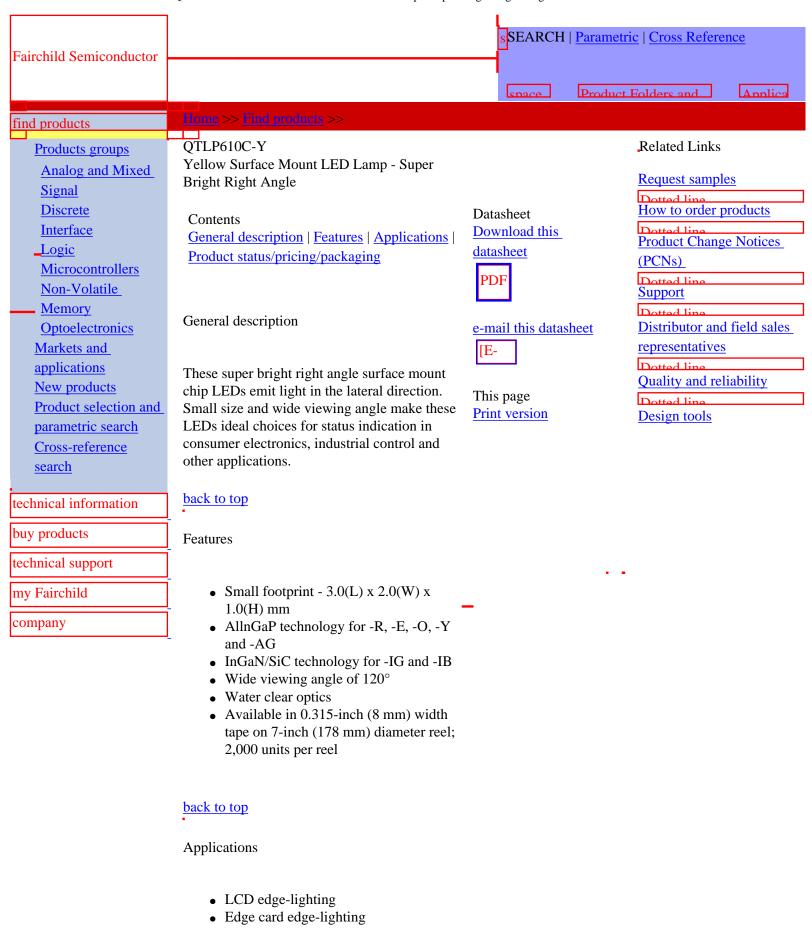


Product	Product status	Pricing*	Package type	Packing method
QTLP610CRAGTR	Full Production	\$0.159	SMD, Right Angle	TAPE REEL
QTLP610C-R.TR	Full Production	\$0.088	SMD, Right Angle	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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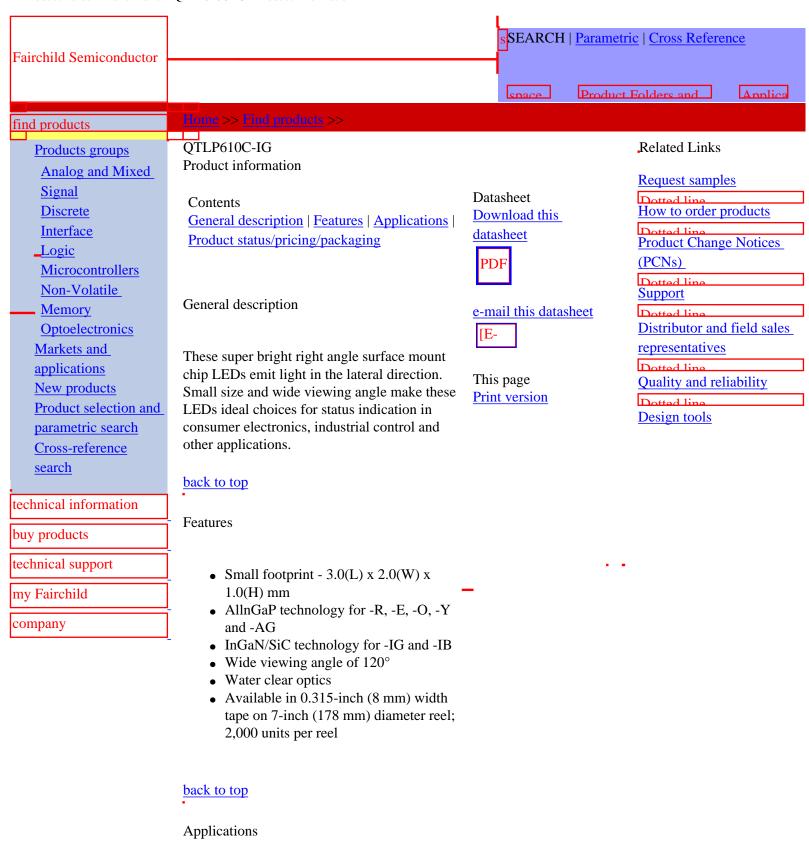


Product	Product status	Pricing*	Package type	Packing method
QTLP610C-Y.TR	Full Production	\$0.088	SMD, Right Angle	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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• LCD edge-lighting • Edge card edge-lighting

Product	Product status	Pricing*	Package type	Packing method
QTLP610CIGTR	Full Production	\$0.65	SMD, Right Angle	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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Product	Product status	Pricing*	Package type	Packing method
QTLP610CIBTR	Full Production	\$0.54	SMD, Right Angle	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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Product	Product status	Pricing*	Package type	Packing method
QTLP610C-E.TR	Full Production	\$0.088	SMD, Right Angle	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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Applications

- LCD edge-lighting
- Edge card edge-lighting

Product	Product status	Pricing*	Package type	Packing method
QTLP610CAGTR	Full Production	\$0.115	SMD, Right Angle	TAPE REEL

^{* 1,000} piece Budgetary Pricing

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