

SEMICONDUCTOR®

QTLP600C-R Red

QTLP600C-E Orange

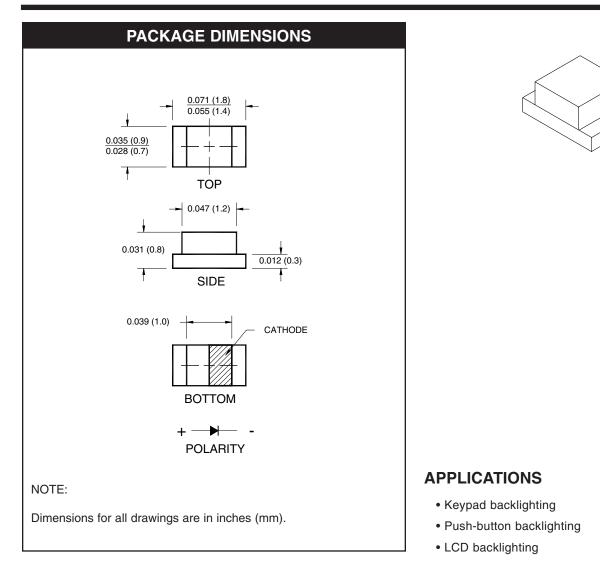
QTLP600C-O Yellow-Orange

QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue



### 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 0.8(H) mm
- AllnGaP technology for -R, -E, -O, -Y and -AG
- InGaN/SiC technology for -IG and -IB
- Wide viewing angle of 100°

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

## FAIRCHILD

# SURFACE MOUNT LED LAMP SUPER BRIGHT 0603 (0.8 mm Height)

SEMICONDUCTOR®

QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

Units

mA mA V

mW

°C ℃

°C

QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

72

QTLP600C-IB Blue

**Power Dissipation** 

**Operating Temperature** 

Storage Temperature

Lead Soldering Time

ABSOLUTE MAXIMUM RATINGS (TA =25°C Unless otherwise specified)							
Devenueter	Cumhal			QTLP600C	;		
Parameter	Symbol	-R	-E	-0	-Y	-AG	
Continuous Forward Current	IF	30	30	30	25	30	
Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10)	I <sub>FM</sub>	160	160	160	120	160	
Reverse Voltage	V <sub>R</sub>	5	5	5	5	5	

72

72

72

-40 to +85

-40 to +90

260 for 5 sec

60

 $\mathsf{P}_\mathsf{D}$ 

T<sub>OPR</sub>

T<sub>STG</sub>

T<sub>SOL</sub>

<b>-</b> .		QTL	.P600C	
Parameter	Symbol	-IB	-IG	Units
Continuous Forward Current	I <sub>F</sub>	30	30	mA
Peak Forward Current		100	100	
(f = 1.0 KHz, Duty Factor = 1/10)	I <sub>FM</sub> 100	100	mA	
Reverse Voltage	V <sub>R</sub>	5	5	V
Power Dissipation	PD	120	120	mW
Operating Temperature	T <sub>OPR</sub>	-40 to +85		°C
Storage Temperature	T <sub>STG</sub>	-40 to +90		
Lead Soldering Time	T <sub>SOL</sub>	260 f	or 5 sec	°C

## FAIRCHILD

# SURFACE MOUNT LED LAMP SUPER BRIGHT 0603 (0.8 mm Height)

SEMICONDUCTOR®

QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue

		QTLP600C					
Part Number	Symbol	-R	-E	-0	-Y	-AG	Condition
Luminous Intensity (mcd)							
Minimum	Ι <sub>V</sub>	15	15	15	15	10	I <sub>F</sub> = 20mA
Typical		35	35	35	35	15	1
Forward Voltage (V)							
Maximum	V <sub>F</sub>	2.4	2.4	2.4	2.4	2.4	I <sub>F</sub> = 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 <sub>F</sub> = 20mA
Dominant	λ <sub>D</sub>	624	615	605	589	573	
Spectral Line Half Width (nm)	Δλ	20	18	18	15	20	I <sub>F</sub> = 20mA
Viewing Angle (°)	2 <del>0</del> 1/2	100	100	100	100	100	I <sub>F</sub> = 20mA

ELECTRICAL / OPTICAL CHARACTERISTICS (T <sub>A</sub> =25°C)						
		QTLF	P600C			
Part Number	Symbol	-IB	-IG	Condition		
Luminous Intensity (mcd)						
Minimum	I <sub>V</sub>	15	70	I <sub>F</sub> = 20mA		
Typical		25	110			
Forward Voltage (V)						
Maximum	V <sub>F</sub>	4.0	4.0	I <sub>F</sub> = 20mA		
Typical		3.5	3.5			
Wavelength (nm)						
Peak	λ <sub>P</sub>	465	520	$I_F = 20 mA$		
Dominant	λ <sub>D</sub>	470	525			
Spectral Line Half Width (nm)	Δλ	25	35	I <sub>F</sub> = 20mA		
Viewing Angle (°)	201/ <sub>2</sub>	100	100	I <sub>F</sub> = 20mA		



SEMICONDUCTOR®

# SURFACE MOUNT LED LAMP SUPER BRIGHT 0603 (0.8 mm Height)

QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

50

QTLP600C-IB Blue

TYPICAL PERFORMANCE CURVES (QTLP600C-R, -E, -O, -Y and -AG)

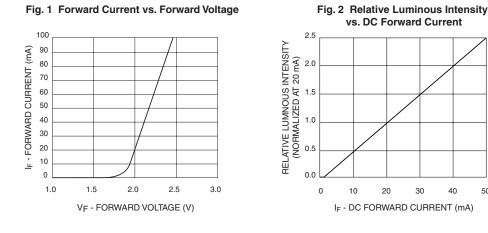


Fig. 3 Relative Intensity vs. Peak Wavelength

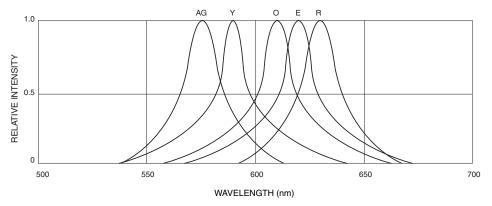


Fig.4 Radiation Diagram

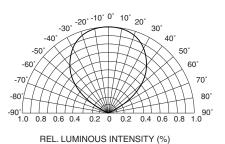
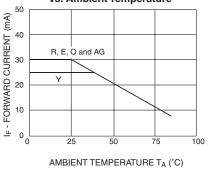


Fig.5 Maximum Forward Current vs. Ambient Temperature





SEMICONDUCTOR®

# SURFACE MOUNT LED LAMP SUPER BRIGHT 0603 (0.8 mm Height)

QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

QTLP600C-Y Yellow

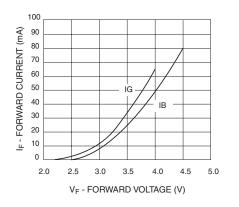
QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue

### TYPICAL PERFORMANCE CURVES (QTLP600C-IG and IB)





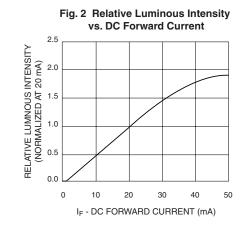


Fig. 3 Relative Intensity vs. Peak Wavelength

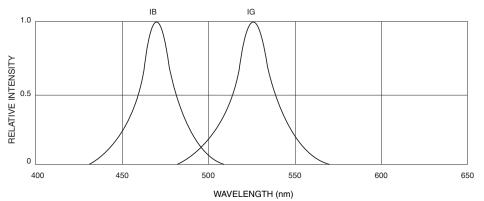
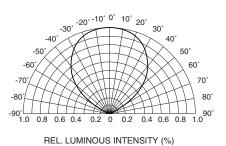
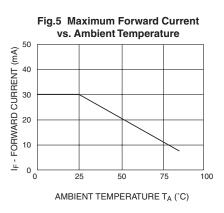


Fig.4 Radiation Diagram







SEMICONDUCTOR®

QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

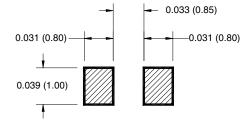
QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

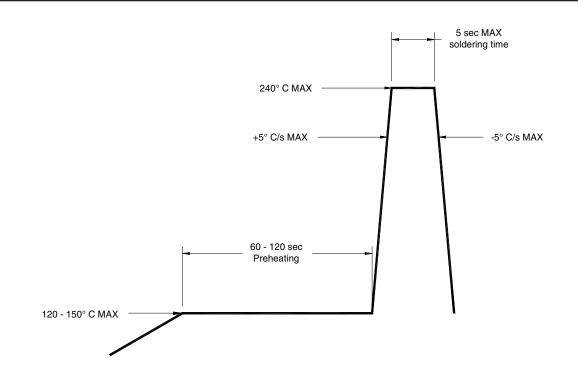
QTLP600C-IG True Green

QTLP600C-IB Blue

### RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



### RECOMMENDED IR REFLOW SOLDERING PROFILE





SEMICONDUCTOR®

QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

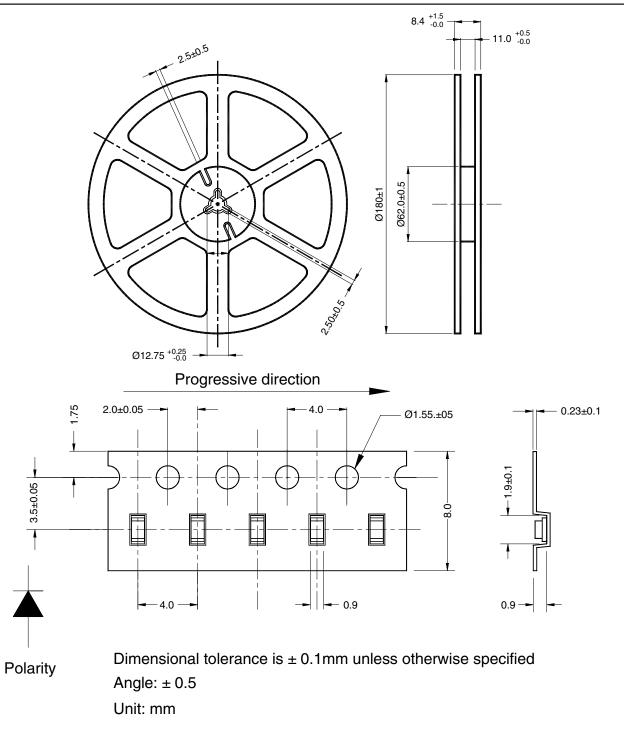
QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue

### TAPE AND REEL DIMENSIONS





SEMICONDUCTOR®

QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue

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Product Folder - Fairchild P/N QTLP600C-AG - Yellow-Green Surface Mount LED Lamp - Super Bright 0603 (0.8 mm Height)

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find products	Home >> Find products >> QTLP600C-AG		Related Links
Products groups Analog and Mixed Signal	Yellow-Green Surface Mount LED Lamp - Super Bright 0603 (0.8 mm Height)		Request samples
Discrete Interface Logic Microcontrollers Non-Volatile	Contents <u>General description   Features   Applications  </u> Product status/pricing/packaging	Datasheet <u>Download this</u> <u>datasheet</u> PDF	How to order products  Dotted line Product Change Notices (PCNs) Dotted line Support
<u>Memory</u> Optoelectronics <u>Markets and</u>	General description	e-mail this datasheet [E-	Dotted line Distributor and field sales representatives
applications New products Product selection and parametric search Cross-reference search	These surface mount chip LEDs are designed to fit the industry standard footprint. Small size, low profile and wide viewing angle make these LEDs ideal choices for backlighting applications and panel illumination.	This page <u>Print version</u>	Quality and reliability          Dotted line         Dotted line         Design tools
technical information	back to top • • Features		
technical support my Fairchild company	<ul> <li>Small footprint - 1.6(L) x 0.8(W) x 0.8(H) mm</li> <li>AllnGaP technology for -R, -E, -O, -Y and -AG</li> </ul>		-

- InGaN/SiC technology for -IG and -IB
- Wide viewing angle of 100°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315-inch (8 mm) width tape on 7-inch (178 mm) diameter reel; 2,000 units per reel

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- Keypad backlighting
- Push-button backlighting
- LCD backlighting

Product status/pricing/packaging

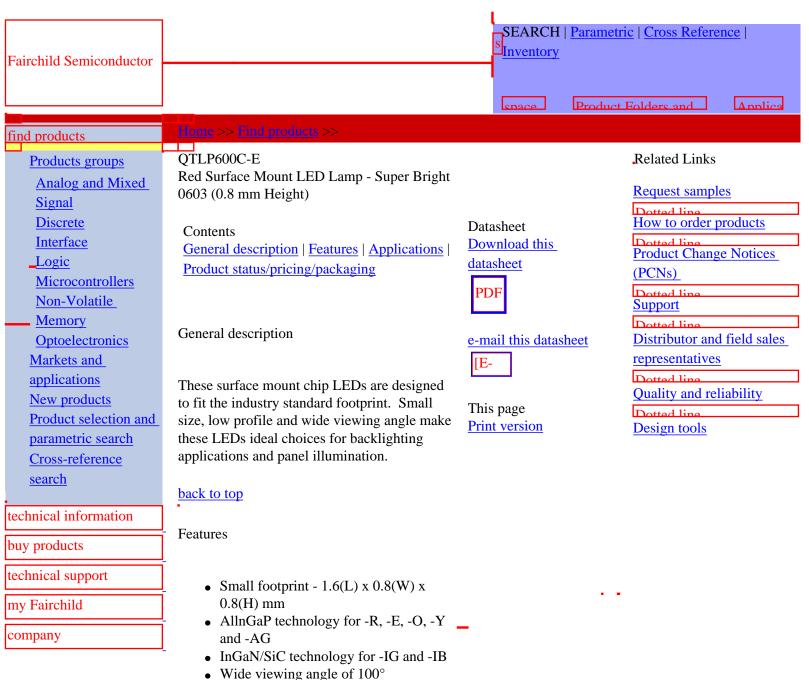
Product	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QTLP600CAGTR	Full Production	\$0.071	Purchase	SMD	BOX

\* Fairchild 1,000 piece Budgetary Pricing

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Product Folder - Fairchild P/N QTLP600C-E - Red Surface Mount LED Lamp - Super Bright 0603 (0.8 mm Height)



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

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- Keypad backlighting
- Push-button backlighting
- LCD backlighting

#### Product status/pricing/packaging

Product	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QTLP600CETR	Full Production	\$0.051	Purchase	SMD	BOX

\* Fairchild 1,000 piece Budgetary Pricing

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	<ul> <li>Wide viewing angle of 100°</li> <li>Water clear optics</li> <li>Moisture-proof packaging</li> <li>Available in 0.315-inch (8 mm) width tape on 7-inch (178 mm) diameter reel; 2,000 units per reel</li> </ul>		

- Keypad backlighting
- Push-button backlightingLCD backlighting

Product status/pricing/packaging

Product	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QTLP600CIBTR	Full Production	\$0.67	Purchase	SMD	BOX

\* Fairchild 1,000 piece Budgetary Pricing

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Products groups Analog and Mixed Signal Discrete Interface Logic Microcontrollers Non-Volatile	QTLP600C-IG High Efficiency Red Rectangular Solid State Lamp Contents <u>General description   Features   Applications  </u> <u>Product status/pricing/packaging</u>	Datasheet Download this datasheet PDF	Related Links  Request samples  Dotted line How to order products  Dotted line Product Change Notices (PCNs)  Dotted line Support
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technical information buy products technical support	<ul> <li>back to top</li> <li>Features</li> <li>Small footprint - 1.6(L) x 0.8(W) x</li> </ul>		

- my Fairchild
- company

- Small footprint  $1.6(L) \ge 0.8(W) \ge$ 0.8(H) mm
- AllnGaP technology for -R, -E, -O, -Y and -AG
- InGaN/SiC technology for -IG and -IB
- Wide viewing angle of 100°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315-inch (8 mm) width tape on 7-inch (178 mm) diameter reel; 2,000 units per reel

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

Product status/pricing/packaging

Product	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QTLP600CIGTR	Full Production	\$0.79	Purchase	SMD	BOX

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Markets and applications New products Product selection and parametric search Cross-reference	These surface mount chip LEDs are designed to fit the industry standard footprint. Small size, low profile and wide viewing angle make these LEDs ideal choices for backlighting applications and panel illumination.	E- This page <u>Print version</u>	representatives Dotted line Quality and reliability Dotted line Design tools
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technical support my Fairchild	• Small footprint - 1.6(L) x 0.8(W) x 0.8(H) mm		

company

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and -AG

• Water clear optics

2,000 units per reel

Applications

- Keypad backlighting
- Push-button backlighting

• AllnGaP technology for -R, -E, -O, -Y

• InGaN/SiC technology for -IG and -IB

• Available in 0.315-inch (8 mm) width tape on 7-inch (178 mm) diameter reel;

• Wide viewing angle of  $100^{\circ}$ 

• Moisture-proof packaging

• LCD backlighting

Product status/pricing/packaging

Produ	ict	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QTLP600	COTR	Full Production	\$0.051	Purchase	SMD	BOX

\* Fairchild 1,000 piece Budgetary Pricing

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Optoelectronics Markets and applications	General description These surface mount chip LEDs are designed	e-mail this datasheet	Distributor and field sales representatives
<u>New products</u> <u>Product selection and</u> <u>parametric search</u> <u>Cross-reference</u> search	to fit the industry standard footprint. Small size, low profile and wide viewing angle make these LEDs ideal choices for backlighting applications and panel illumination.	This page <u>Print version</u>	Quality and reliability Dotted line Design tools
technical information	back to top		
buy products	- Features		
technical support	• Small footprint - 1.6(L) x 0.8(W) x		
my Fairchild company	<ul> <li>0.8(H) mm</li> <li>AllnGaP technology for -R, -E, -O, -Y and -AG</li> </ul>	-	

- InGaN/SiC technology for -IG and -IB
- Wide viewing angle of 100°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315-inch (8 mm) width tape on 7-inch (178 mm) diameter reel; 2,000 units per reel

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

Product status/pricing/packaging

Product	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QTLP600CRTR	Full Production	\$0.051	Purchase	SMD	BOX

\* Fairchild 1,000 piece Budgetary Pricing

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Products groups	QTLP600C-Y		Related Links
Analog and Mixed	AlGaAs Red Surface Mount LED Lamp - Standard Bright 0603 (0.6 mm Height)		Request samples
<u>Signal</u>	Standard Bright 0005 (0.0 min Height)		Dotted line
Discrete Interface	Contents	Datasheet	How to order products
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<u>Memory</u>	General description		Dotted line
<u>Optoelectronics</u>	General description	e-mail this datashe	
Markets and applications		[E-	representatives
New products	These surface mount chip LEDs are designed to fit the industry standard footprint. Small		Quality and reliability
Product selection and	size, low profile and wide viewing angle make	This page Print version	Dotted line
parametric search	these LEDs ideal choices for backlighting	<u>I IIII Version</u>	Design tools
Cross-reference	applications and panel illumination.		
<u>search</u>	back to top		
technical information	•		
	Features		
buy products	-		
technical support	• Small footprint - 1.6(L) x 0.8(W) x		
my Fairchild	0.8(H) mm		•••
	• AllnGaP technology for -R, -E, -O, -Y	_	

file:///D|/fair/pdf/QTLP600C-Y.html (1 of 2) [10/7/02 10:24:49 AM]

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Applications

and -AG

• Water clear optics

• InGaN/SiC technology for -IG and -IB

• Available in 0.315-inch (8 mm) width tape on 7-inch (178 mm) diameter reel;

• Wide viewing angle of 100°

• Moisture-proof packaging

2,000 units per reel

Keypad backlighting Push-button backlighting

• LCD backlighting

Product status/pricing/packaging

	Product	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QT	TLP600CYTR	Full Production	\$0.051	Purchase	SMD	BOX

\* Fairchild 1,000 piece Budgetary Pricing

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