

QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

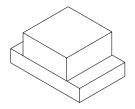
QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-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) 0.031 (0.8) 0.012 (0.3) 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 0.8(H) mm
- AllnGaP technology for -R, -E, -O, -Y and -AG
- InGaN/SiC technology for -IG and -IB
- \bullet 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



QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue

ABSOLUTE MAXIMUM RATINGS (TA =25°C Unless otherwise specified)								
Parameter	0 1 1			QTLP600C	;		11.31.	
	Symbol	-R	-E	-0	-Y	-AG	Units	
Continuous Forward Current	I _F	30	30	30	25	30	mA	
Peak Forward Current (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)								
Parameter	0	QTL	.P600C					
	Symbol	-IB	-IG	Units				
Continuous Forward Current	IF	30	30	mA				
Peak Forward Current		400	100	^				
(f = 1.0 KHz, Duty Factor = 1/10)	IFM	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 to +90						
Lead Soldering Time	T _{SOL}	260 f	or 5 sec	°C				



QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue

ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)								
				QTLP600C				
Part Number	Symbol	-R	-E	-0	-Y	-AG	Condition	
Luminous Intensity (mcd)								
Minimum	I _V	15	15	15	15	10	$I_F = 20mA$	
Typical	1	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	1	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 (°)	2 0 1/ ₂	100	100	100	100	100	$I_F = 20mA$	

ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)							
		QTL	_P600C				
Part Number	Symbol	-IB	-IG	Condition			
Luminous Intensity (mcd)							
Minimum	I _V	15	70	$I_F = 20mA$			
Typical		25	110				
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	100	100	I _F = 20mA			



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-R, -E, -O, -Y and -AG)

Fig. 1 Forward Current vs. Forward Voltage

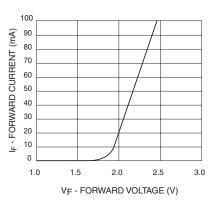


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

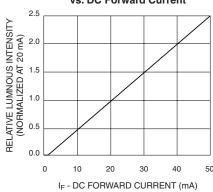


Fig. 3 Relative Intensity vs. Peak Wavelength

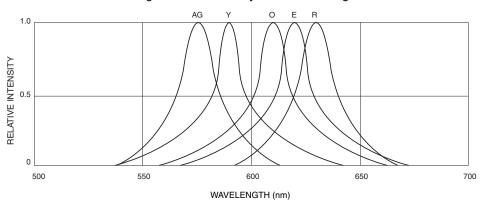


Fig.4 Radiation Diagram

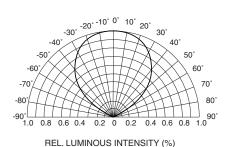
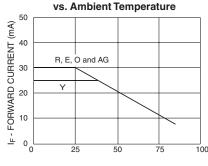


Fig.5 Maximum Forward Current



AMBIENT TEMPERATURE T_A (°C)



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. 1 Forward Current vs. Forward Voltage

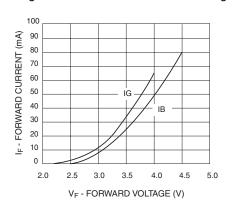


Fig. 2 Relative Luminous Intensity

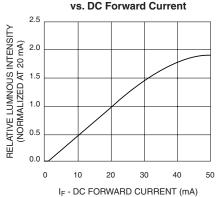


Fig. 3 Relative Intensity vs. Peak Wavelength

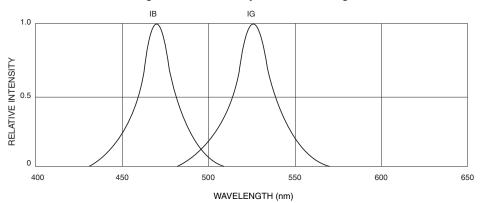


Fig.4 Radiation Diagram

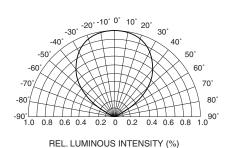
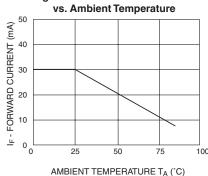


Fig.5 Maximum Forward Current





QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

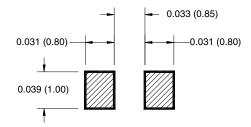
QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

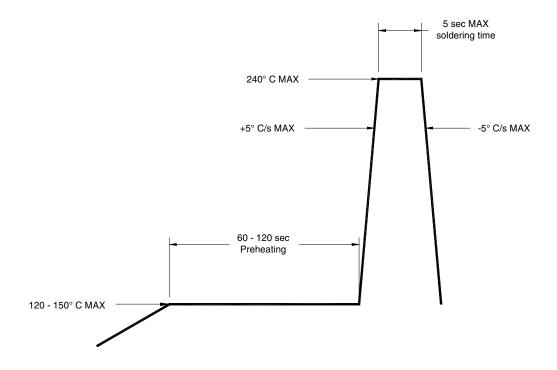
QTLP600C-IG True Green

QTLP600C-IB Blue

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE





QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

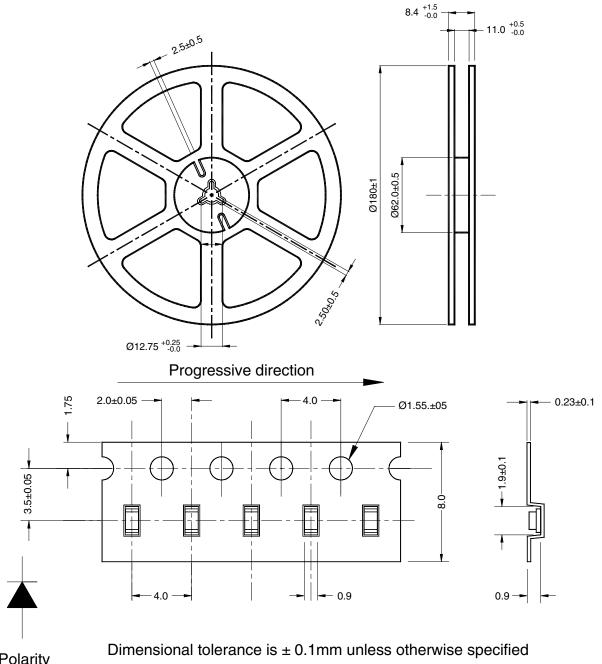
QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue

TAPE AND REEL DIMENSIONS



Polarity

Angle: ± 0.5

Unit: mm



QTLP600C-R Red

QTLP600C-E Orange

QTLP600C-O Yellow-Orange

QTLP600C-Y Yellow

QTLP600C-AG Yellow-Green

QTLP600C-IG True Green

QTLP600C-IB Blue

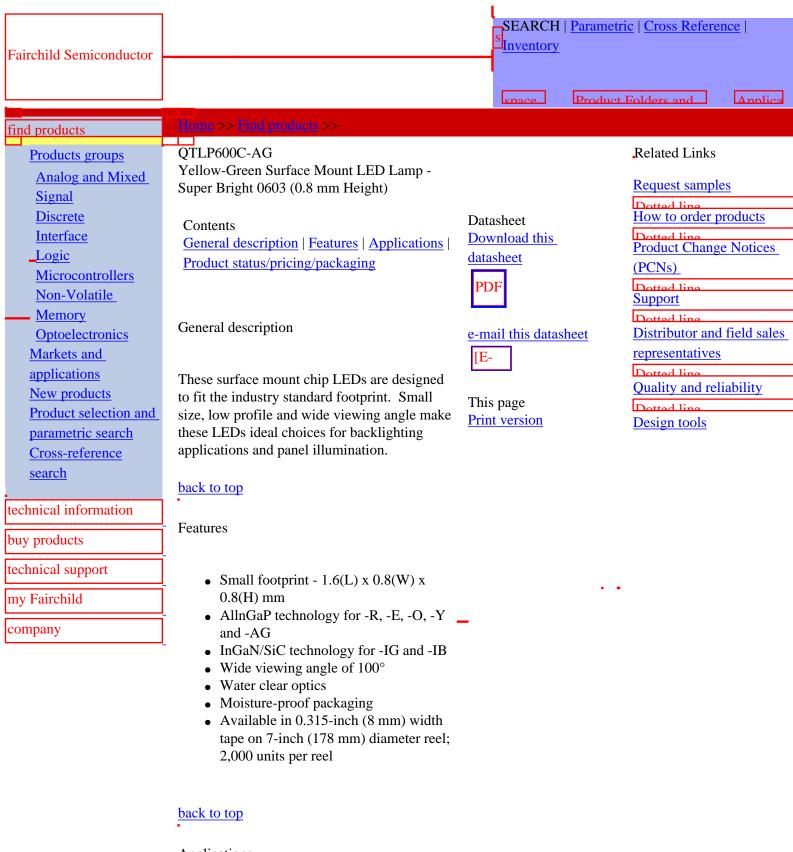
DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

- Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body,or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in labeling, can be reasonably expected to result in a significant injury of the user.
- 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.



- Keypad backlighting
- Push-button backlighting
- LCD backlighting

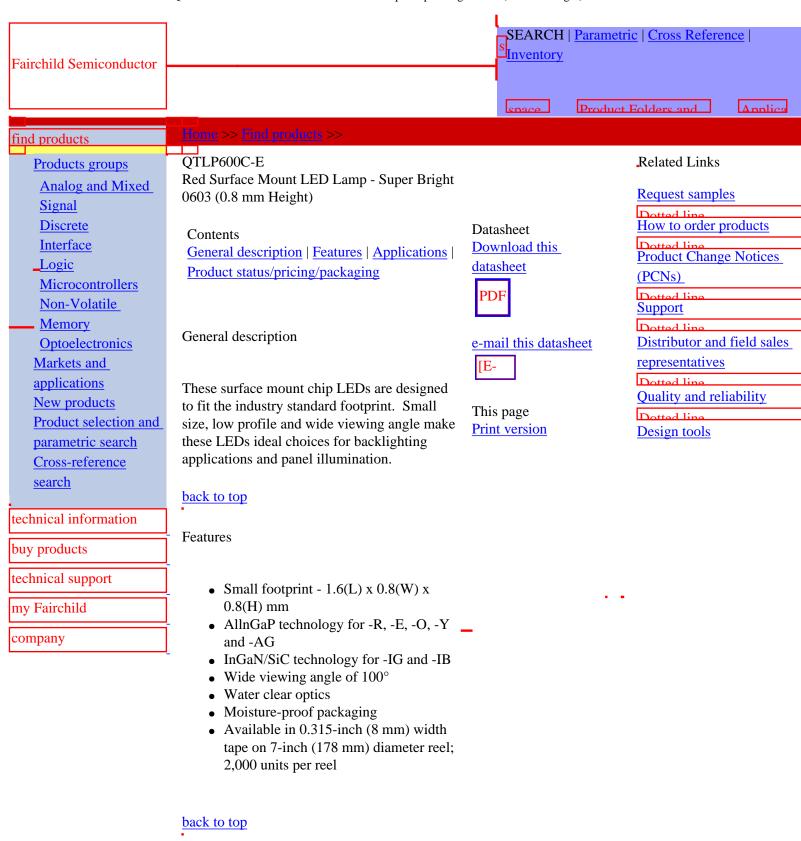
Product status/pricing/packaging

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

back to top

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>



- Keypad backlighting
- Push-button backlighting
- LCD backlighting

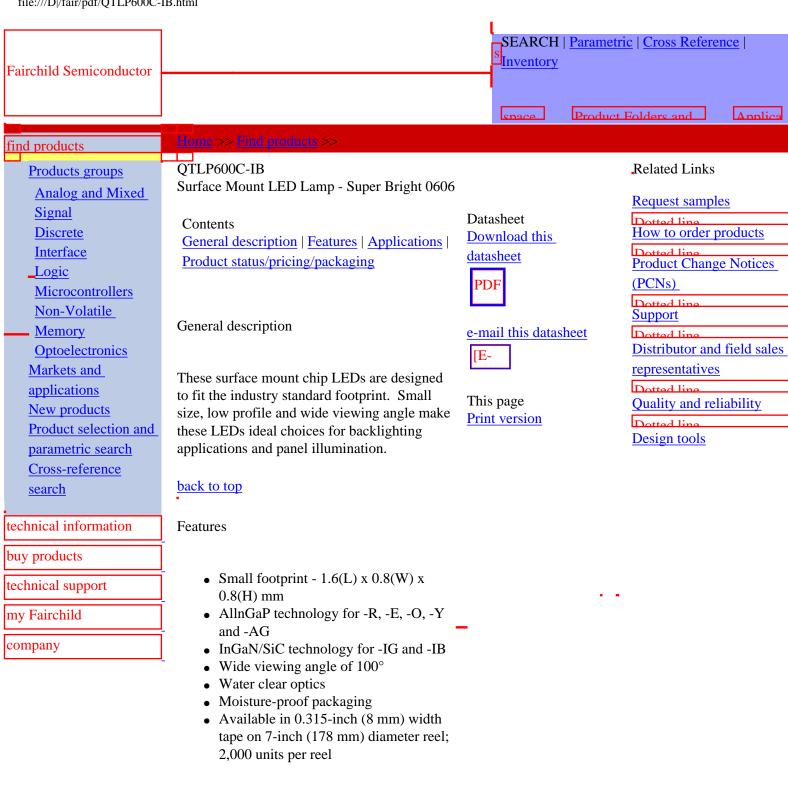
Product status/pricing/packaging

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

back to top

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>



- Keypad backlighting
- Push-button backlighting
- LCD backlighting

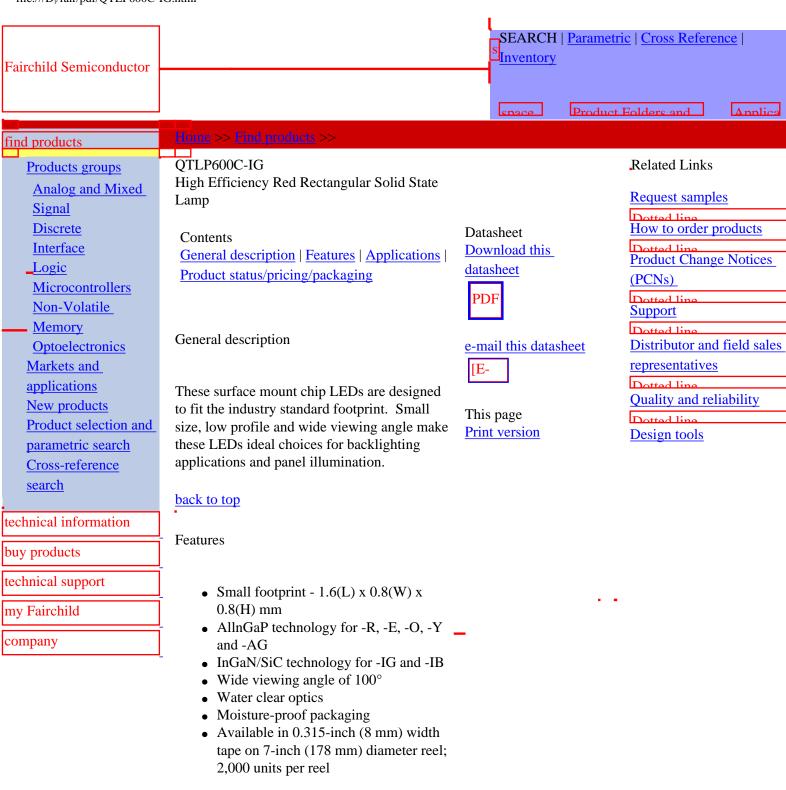
Product status/pricing/packaging

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

back to top

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>



- Keypad backlighting
- Push-button backlighting
- LCD backlighting

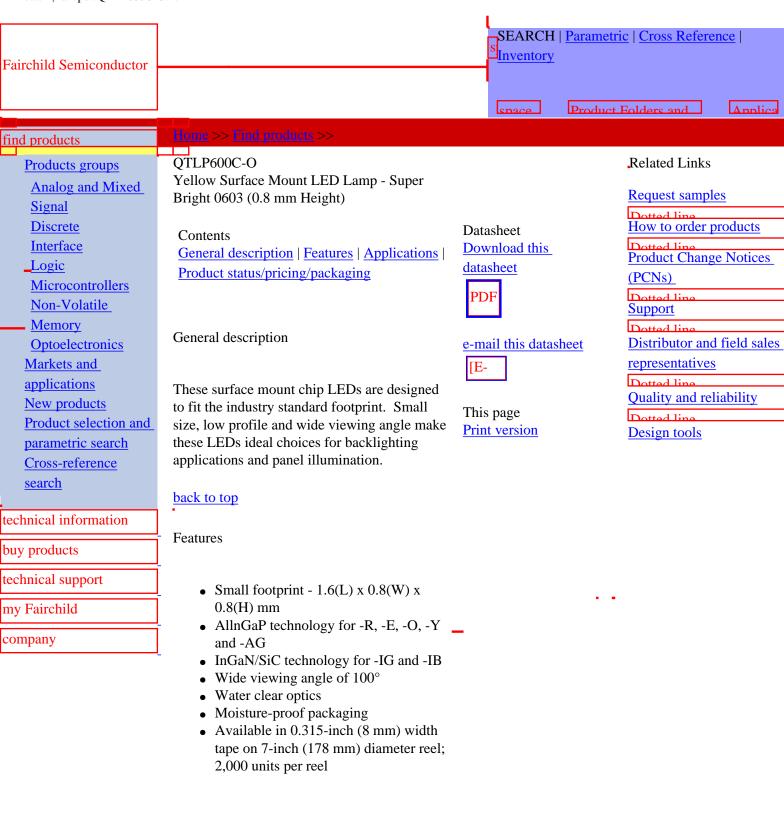
Product status/pricing/packaging

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

^{*} Fairchild 1,000 piece Budgetary Pricing

back to top

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>



- Keypad backlighting
- Push-button backlighting
- LCD backlighting

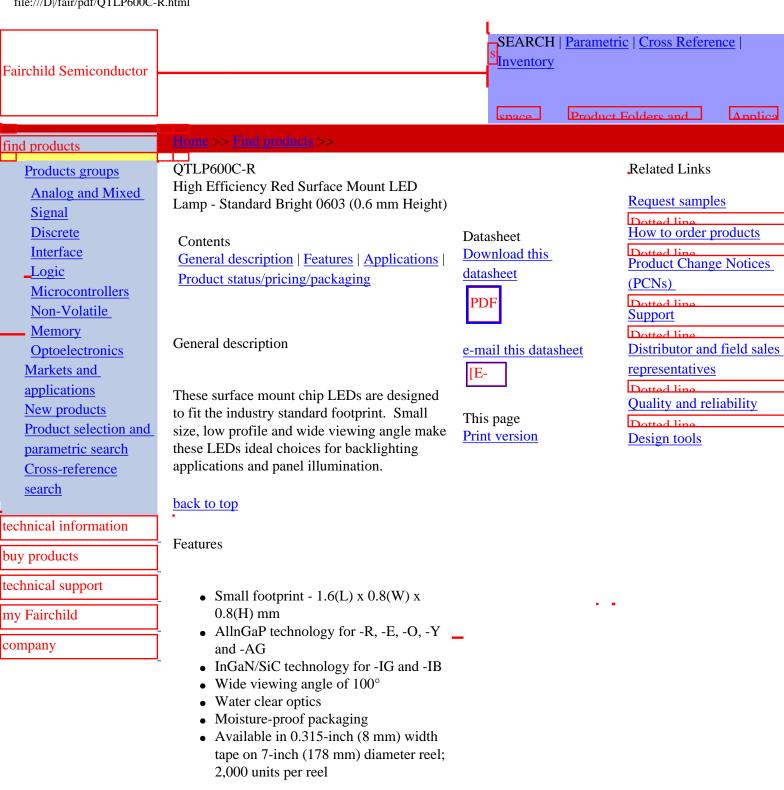
Product status/pricing/packaging

Product	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QTLP600COTR	Full Production	\$0.051	Purchase	SMD	BOX

^{*} Fairchild 1,000 piece Budgetary Pricing

back to top

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>



- Keypad backlighting
- Push-button backlighting
- LCD backlighting

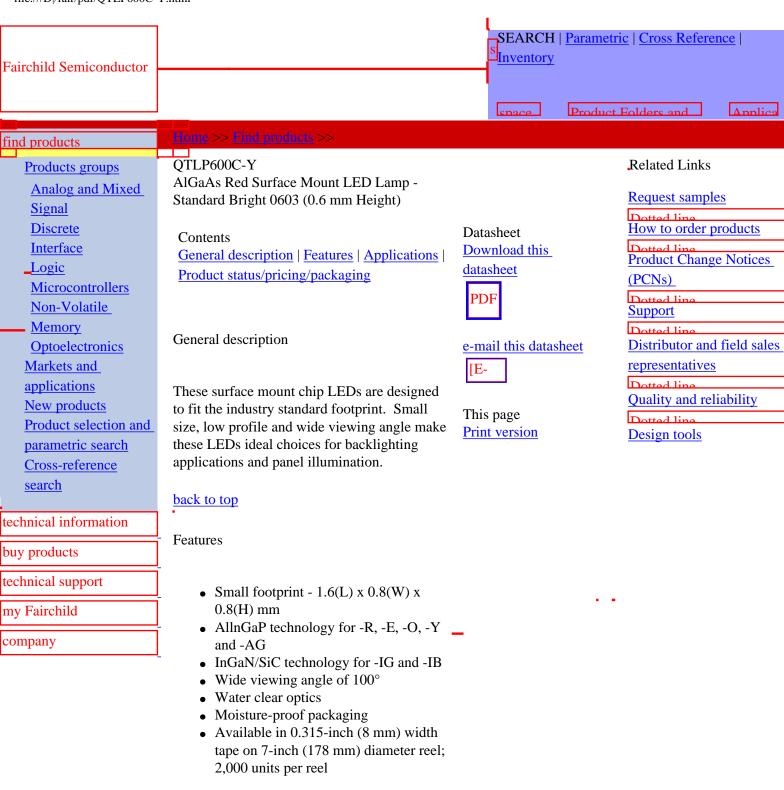
Product status/pricing/packaging

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

back to top

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>



- Keypad backlighting
- Push-button backlighting
- LCD backlighting

Product status/pricing/packaging

Product	Product status	Pricing*	Inventory check & ordering	Package type	Packing method
QTLP600CYTR	Full Production	\$0.051	Purchase	SMD	BOX

^{*} Fairchild 1,000 piece Budgetary Pricing

back to top

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>