Is Now Part of

ON Semiconductor®

To learn more about ON Semiconductor, please visit our website at
www.onsemi.com

Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

QTLP610CPD

Right Angle Surface Mount Infrared Phototransistor

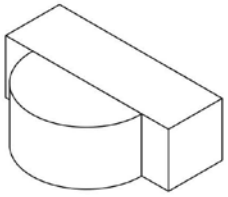
ON Semiconductor®

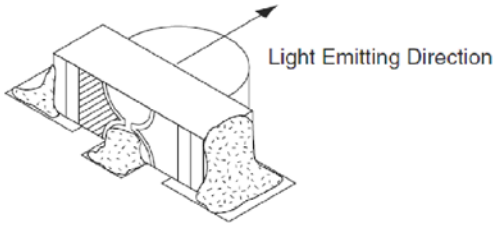
www.onsemi.com

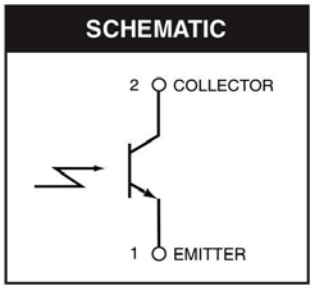
QTLP61 OCPD is a phototransistor in miniature SMD package molded in a water clear plastic with right angle lens.

FEATURES

- NPN Silicon Phototransistor
- Right Angle Surface Mount Package
- Matched Emitters: QTLP610CIR
- Available in 0.315” (8mm) width tape on 7” (178mm) diameter reel; 2,000 units per reel
- High Photo Sensitivity
- Low Junction Capacitance
- Fast Response Time
- Water Clear Lens







ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{OPR}	-25 to +85	°C
Storage Temperature	T_{STG}	-40 to +90	°C
Soldering Temperature (Iron)(2,3,4)	T_{SOL-I}	240 for 5 sec	°C
Soldering Temperature (Flow)(2,3)	T_{SOL-F}	260 for 10 sec	°C
Collector Emitter Voltage	V_{CE}	30	V
Emitter Collector Voltage	V_{EC}	5	V
Power Dissipation(1)	P_D	75	mW

Notes:
1. At 25°C or below.
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. Pulse conditions: tp = 100μs, T = 10 ms.

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)						
PARAMETER	**TEST CONDITIONS (λ_P = 940nm)**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Peak Sensitivity Wavelength		λPS	—	860	—	nm
Reception Angle		Θ	—	±80	—	Deg.
Dark Current	V_{CE} = 20 V, Ee = 0	I_D	—	—	100	nA
Collector-Emitter Breakdown	I_C = 100μA, Ee = 0	BV_{CEO}	30	—	—	V
Emitter-Collector Breakdown	I_E = 100μA, Ee = 0	BV_{ECO}	5	—	—	V
On-State Collector Current	Ee = 1 mW/cm^2 V_{CE} = 5V	$I_{C(ON)}$	0.1	0.5	—	mA
Saturation Voltage	Ee = 1 mW/cm^2 I_C = 2mA	$V_{CE(SAT)}$	—	—	0.4	V
Rise Time	V_{CE} = 5V, RL = 1000Ω	t_r	—	15	—	μs
Fall Time	I_C = 1mA	t_f	—	15	—	μs

TYPICAL PERFORMANCE CURVES

Fig. 1 Collector Power Dissipation vs. Ambient Temperature

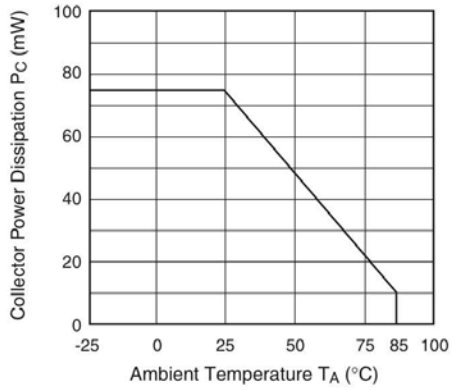


Fig. 2 Collector Dark Current vs. Ambient Temperature

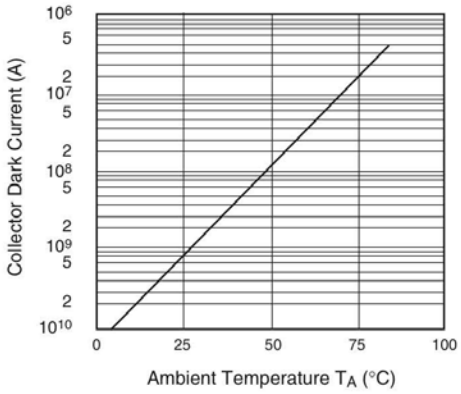


Fig. 3 Relative Collector Current vs. Ambient Temperature

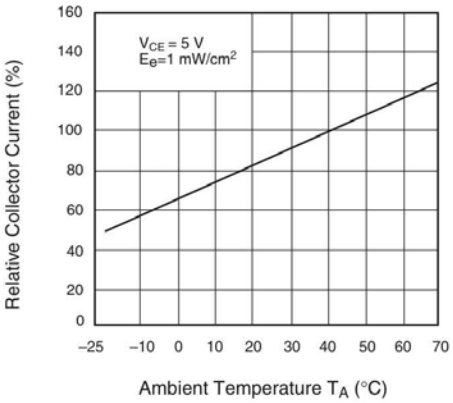


Fig. 4 Collector Current vs. Irradiance

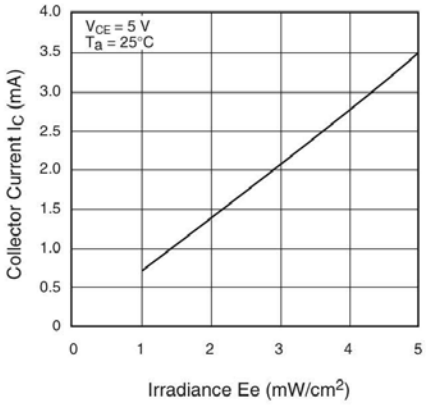


Fig. 5 Spectral Sensitivity

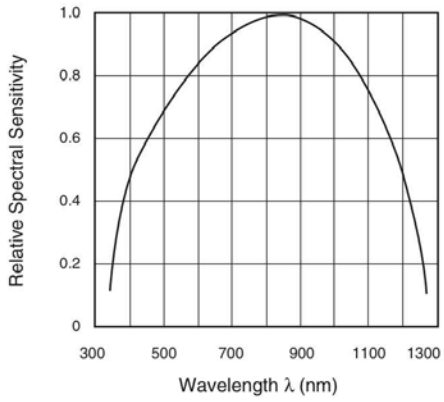
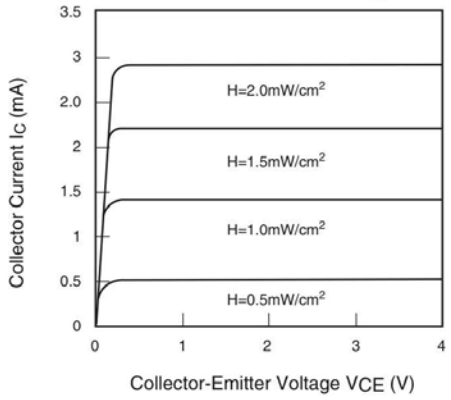
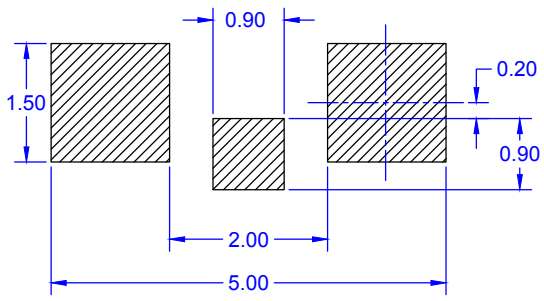
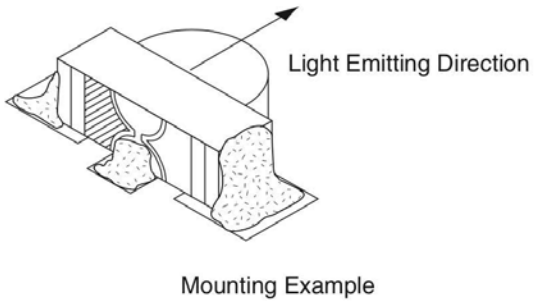


Fig. 6 Collector Current vs. Collector-Emitter Voltage



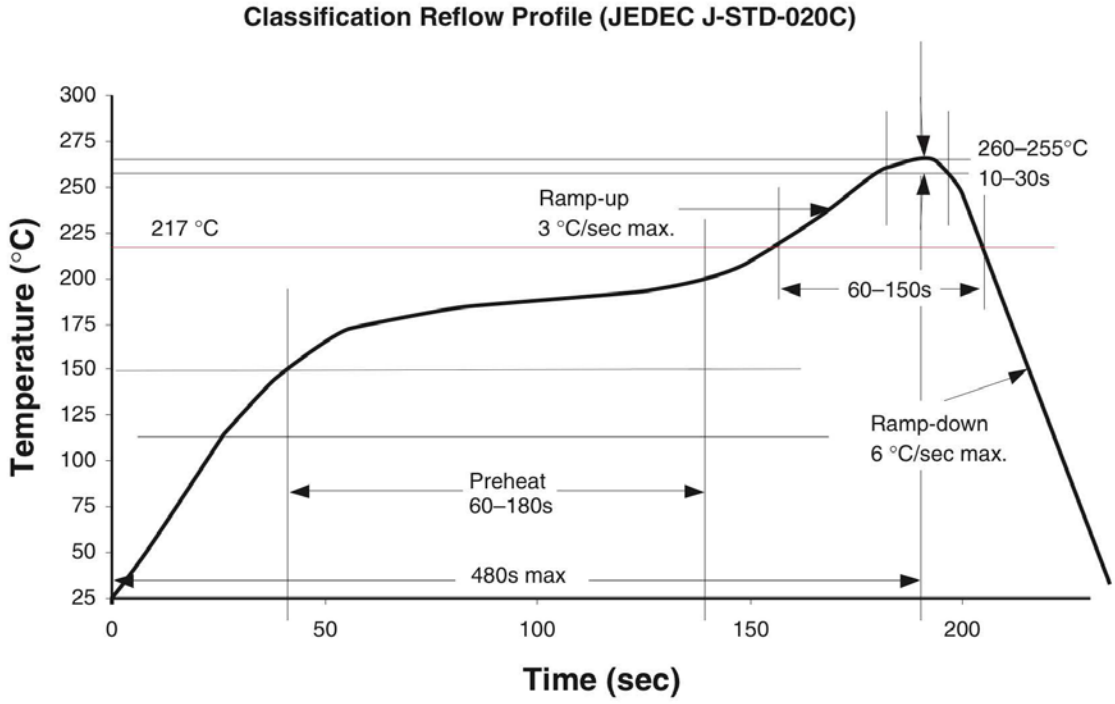
RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



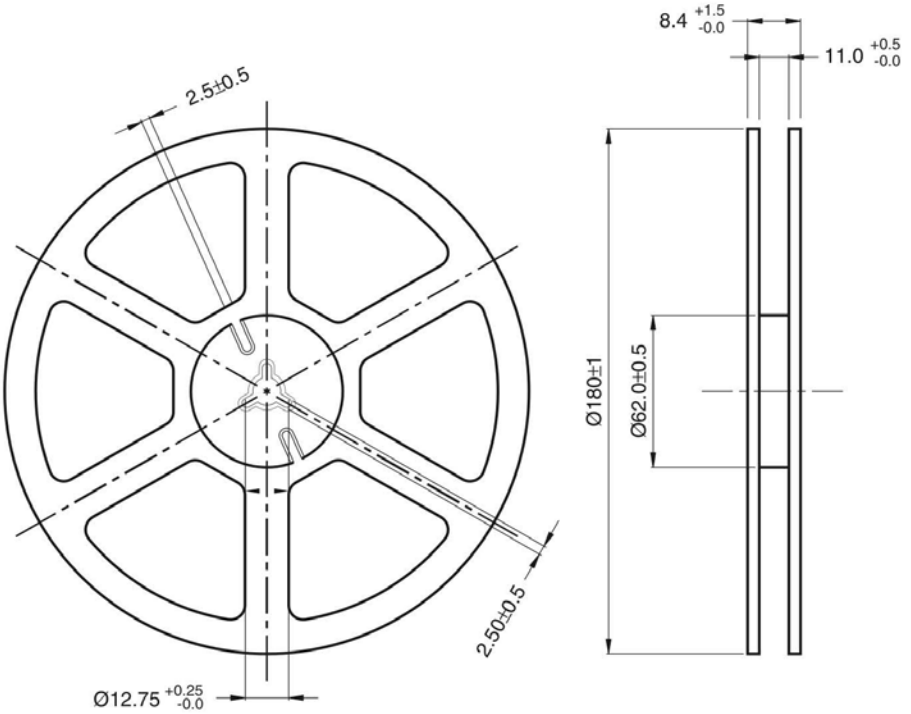


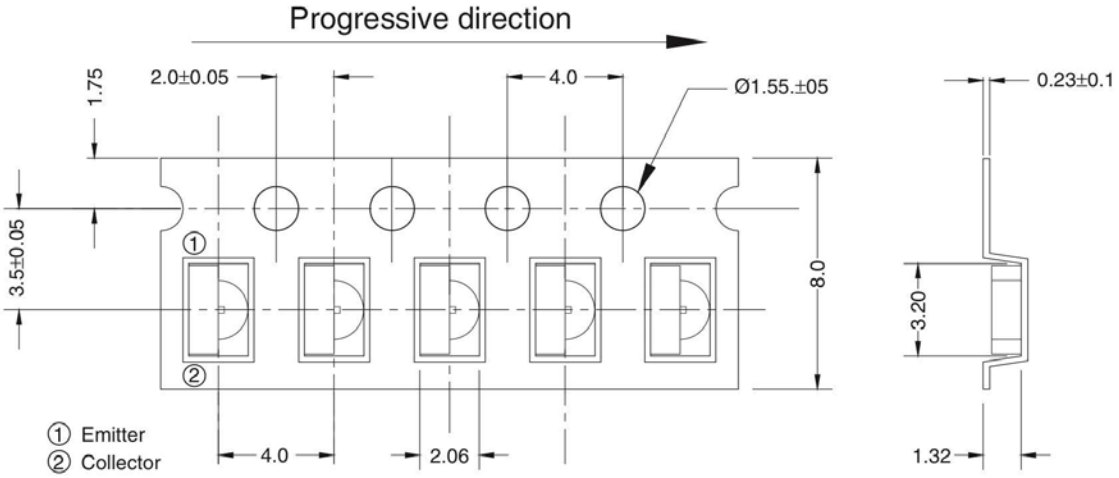
Mounting Example

RECOMMENDED IR REFLOW SOLDERING PROFILE



TAPE AND REEL DIMENSIONS



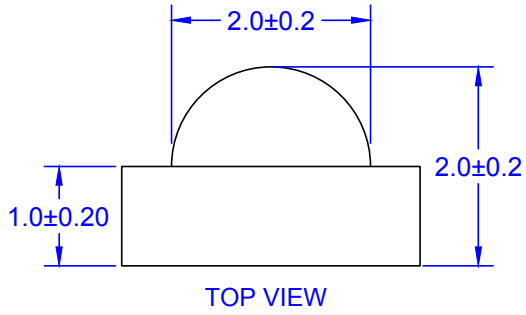


Dimensional tolerance is ± 0.1mm unless otherwise specified

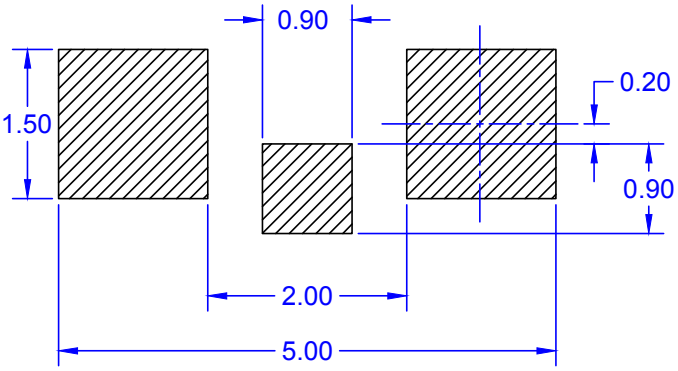
Angle: ± 0.5

Unit: mm

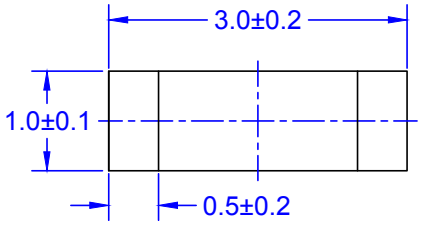
PACKAGE DIMENSIONS



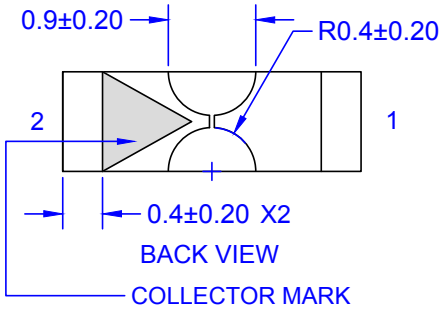
TOP VIEW



LAND PATTERN RECOMMENDATION

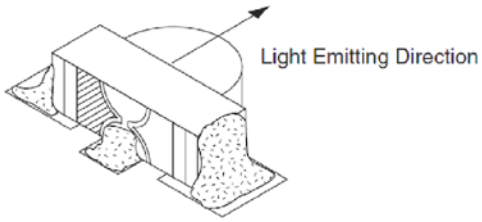


FRONT VIEW



BACK VIEW

COLLECTOR MARK



Mounting Example

NOTES:

A. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE
B. ALL DIMENSIONS ARE IN MILLIMETERS
C. COLLECTOR: PIN 2 EMITTER: PIN1
D. DRAWING FILENAME: MKT-DCE212ArevO

ON Semiconductor

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free USA/Canada.
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81-3-5817-1050

ON Semiconductor Website: **www.onsemi.com**

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA
Phone: 303−675−2175 or 800−344−3860 Toll Free USA/Canada
Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800−282−9855 Toll Free USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81−3−5817−1050

ON Semiconductor Website: **www.onsemi.com**

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ON Semiconductor:

QTLP610CPDTR

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9