



## Quick Reference Guide F Series Switches

The F Series switches offer high performance industrial toggles, rockers, and paddles with high current and high voltage rating in a small case. The F Series encompasses many circuit configurations ranging from single pole through four poles, in two and three positions with a choice of momentary or maintained circuits. This toggle series is UL, CSA recognized for 6A at 250 VAC, 6A at 125VAC with silver contacts and 0.4 VA max. at 20 V AC/DC with optional gold plated contacts, typically used for low energy switching. Electrical life is rated from 25,000 to 50,000 cycles at full load. Other electrical parameters include contact resistance of 10 milliohms max., insulation resistance of 1,000 megohms and actuation force of 19.6 N max.

All F Series switches are panel mounted with 6.0 mm threaded bushing conforming to standard panel cut outs and are constructed of brass with chrome plating. Design engineers are given the option of three toggle styles: standard toggle, locking lever to avoid unwanted switching and long flat toggle.

### FEATURES

- Wide choice of toggles, rockers, and paddles
- Wide range of switch functions
- Terminals are gold-flashed to prevent oxidation and for ease of soldering

### Applications

These devices are designed to meet requirements of light to medium-duty applications including:

- Industrial
- Instrumentation
- Medical equipment

### Typical Performance Characteristics

- Number of Poles** : 1 to 4
- Switch Functions** : ON-ON, ON-(ON), ON-OFF-ON, ON-ON-ON, ON-OFF-(ON), (ON)-OFF-(ON)
- Contact Rating** : 6 A @250 VAC, 6 A @125 VAC,  
**Gold Contact** : 0.4 VA max. 20 V AC/DC
- Electrical Life** : 25,000 to 50,000 cycles
- Mechanical Life** : 50,000 to 100,000 cycles
- Contact Resistance** : Max. 10 mOhm  
 0.4 VA Max. at 2-4 VDC 100 mA  
 125/250 VAC at 2-4 VDC 1 A
- Insulation Resistance** : Min. 1,000 MOhm
- Dielectric Strength** : 1,000 VAC for 1 min.
- Actuation Force** : Max. 19.6 N
- Panel Cut-out** : 6.2 mm
- Standards and Specs** : UL, CSA

### Material Specifications

- Contacts** : Brass silver alloy finish
- Toggle** : Brass chromium plated
- Terminals** : Brass plate
- Case** : Phenol resin
- Cover** : Steel zinc plated
- Seal** : Rubber seal, insert molded rubber

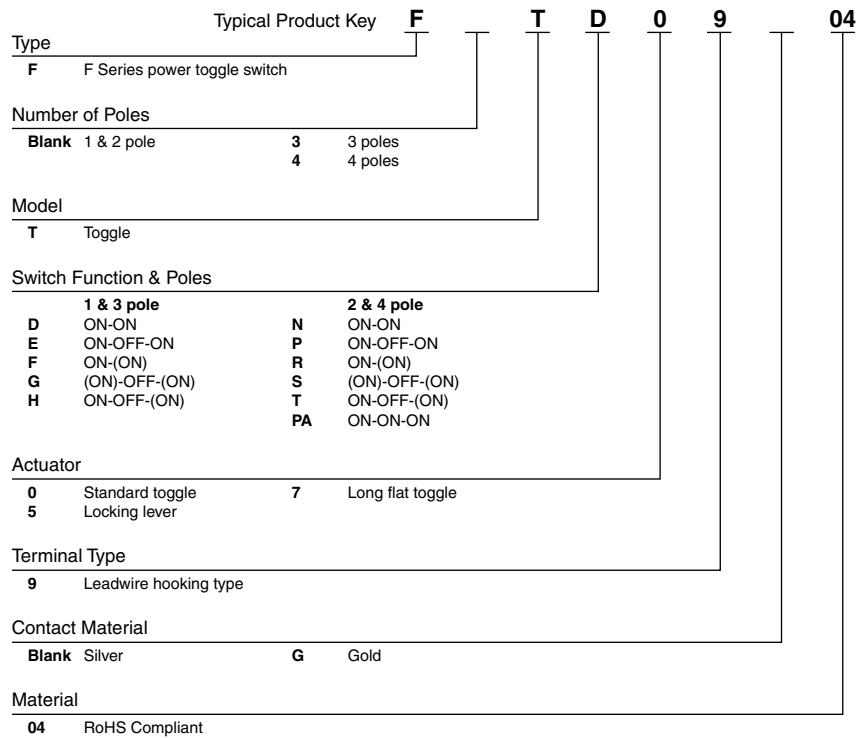
### Other Characteristics

- Contact Timing** : Break before Make
- Right Angle Versions** : No
- Standard Number of Positions** : 2 or 3
- Terminals / Mounting Style** : Leadwire hooking
- Actuator Style** : Standard, long locking; rocker
- Dimensions Case (LxWxH)** : 14.8 x 8 ... 23 x 10.5 mm
- Packaging** : Bulk
- Choice of momentary or maintained circuits**

### Environmental Specification

- Operating Temperature** : -20 to +70°C
- Storage Temperature** : -20 to +70°C
- Vibration Resistance** : 1.5 mm 10-55 Hz
- Shock Resistance** : 50 g for 11±1 msec
- Terminal Strength** : 24.5 N

### F Series Toggle Switches Product Key



Actuator



Code 0 – Standard Toggle

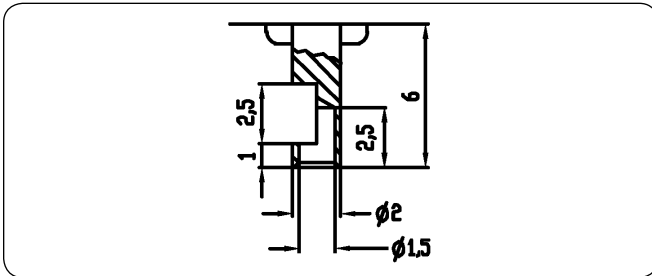


Code 7 – Long Flat Toggle



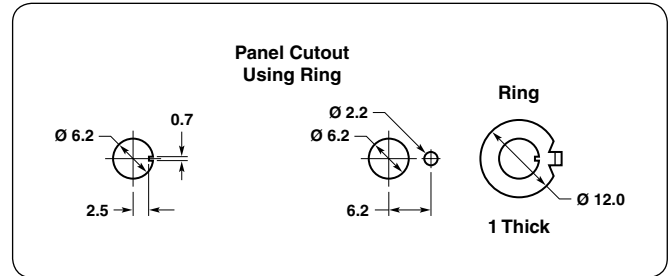
Code 5 – Locking Lever

Terminal



Code 9 – Leadwire Hooking Type

Mounting – F Series Toggles



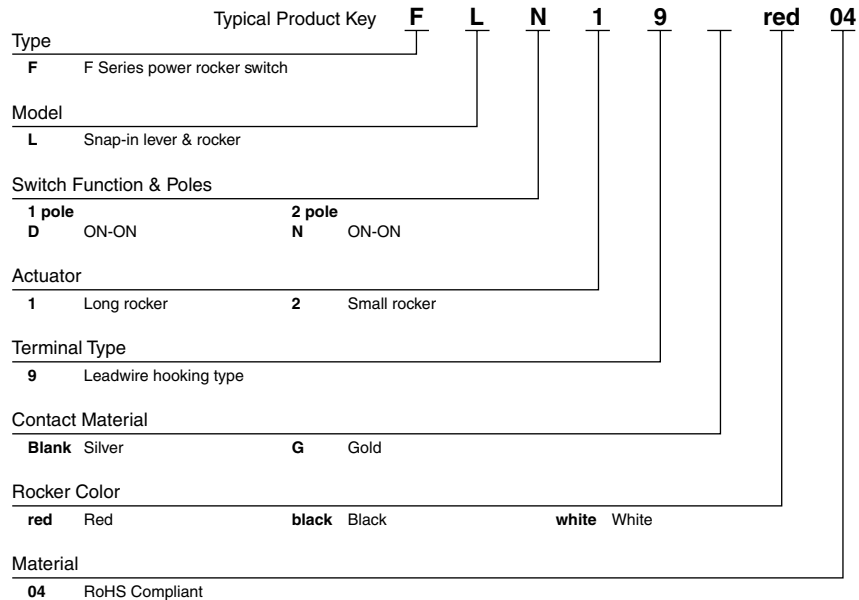
Recommended Hole Layout to Prevent Rotation

**GOLD CONTACTS 0.4 VA MAX. AT 20 V AC/DC**

Product Key	Poles	Switch Function	Actuator	Terminal	Contacts	Part Number
FTD09G04	1 pole	ON-ON	Standard	Leadwire Hooking Type	Gold	3-6437630-4
FTD59G04	1 pole	ON-ON	Locking Lever	Leadwire Hooking Type	Gold	4-6437630-0
FTD79G04	1 pole	ON-ON	Flat Toggle	Leadwire Hooking Type	Gold	5-6437630-4
FTE09G04	1 pole	ON-OFF-ON	Standard	Leadwire Hooking Type	Gold	5-6437630-1
FTE79G04	1 pole	ON-OFF-ON	Flat Toggle	Leadwire Hooking Type	Gold	5-6437630-8
FTF09G04	1 pole	ON-(ON)	Standard	Leadwire Hooking Type	Gold	6-6437630-3
FTG09G04	1 pole	(ON)-OFF-(ON)	Standard	Leadwire Hooking Type	Gold	3-6437630-8
FTH09G04	1 pole	ON-OFF-(ON)	Standard	Leadwire Hooking Type	Gold	6-6437630-4
FTN09G04	2 poles	ON-ON	Standard	Leadwire Hooking Type	Gold	6-6437630-8
FTN59G04	2 poles	ON-ON	Locking Lever	Leadwire Hooking Type	Gold	6-6437630-1
FTN79G04	2 poles	ON-ON	Flat Toggle	Leadwire Hooking Type	Gold	5-6437630-9

SILVER CONTACTS 6A AT 250/125 VAC						
Product Key	Poles	Switch Function	Actuator	Terminal	Contacts	Part Number
F3TD0904	3 Poles	ON-ON	Standard	Leadwire Hooking Type	Silver	2-6437630-8
F4TD0904	4 Poles	ON-ON	Standard	Leadwire Hooking Type	Silver	3-6437630-5
F4TPA0904	4 Poles	ON-ON-ON	Standard	Leadwire Hooking Type	Silver	3-6437630-6
FTD0904	1 Pole	ON-ON	Standard	Leadwire Hooking Type	Silver	2-6437630-0
FTD5904	1 Pole	ON-ON	Locking Lever	Leadwire Hooking Type	Silver	1-6437630-5
FTD7904	1 Pole	ON-ON	Flat Toggle	Leadwire Hooking Type	Silver	5-6437630-3
FTE0904	1 Pole	ON-OFF-ON	Standard	Leadwire Hooking Type	Silver	6-6437630-2
FTF0904	1 Pole	ON-(ON)	Standard	Leadwire Hooking Type	Silver	5-6437630-7
FTG0904	1 Pole	(ON)-OFF-(ON)	Standard	Leadwire Hooking Type	Silver	5-6437630-5
FTH0904	1 Pole	ON-OFF-(ON)	Standard	Leadwire Hooking Type	Silver	4-6437630-8
FTN0904	2 Poles	ON-ON	Standard	Leadwire Hooking Type	Silver	4-6437630-2
FTN5904	2 Poles	ON-ON	Locking Lever	Leadwire Hooking Type	Silver	3-6437630-9
FTN7904	2 Poles	ON-ON	Flat Toggle	Leadwire Hooking Type	Silver	5-6437630-2
FTP0904	2 Poles	ON-OFF-ON	Standard	Leadwire Hooking Type	Silver	4-6437630-6
FTPA0904	2 Poles	ON-OFF-ON	Standard	Leadwire Hooking Type	Silver	4-6437630-5
FTR0904	2 Poles	ON-(ON)	Standard	Leadwire Hooking Type	Silver	4-6437630-4
FTS0904	2 Poles	(ON)-OFF-(ON)	Standard	Leadwire Hooking Type	Silver	4-6437630-3
FTT0904	2 Poles	ON-OFF-(ON)	Standard	Leadwire Hooking Type	Silver	4-6437630-1

### F Series Rocker Switches Product Key



**Actuator**

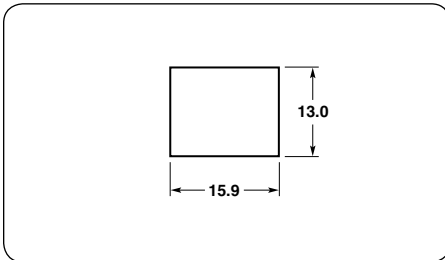


**Code 1 – Long Rocker**



**Code 2 – Small Rocker**

**Mounting – F Series Rocker**



**Panel Cutout  
Thickness 1 to 2.5 mm**

<b>ROCKER</b>							
Product Key	Poles	Switch Function	Actuator	Actuator Color	Terminal	Contacts	Part Number
FLD19black04	1 Pole	ON-ON	Long Rocker	Black	Leadwire Hooking Type	Silver	3-6437630-2
FLD29black04	1 Pole	ON-ON	Small Rocker	Black	Leadwire Hooking Type	Silver	2-6437630-9
FLN19black04	2 Poles	ON-ON	Long Rocker	Black	Leadwire Hooking Type	Silver	3-6437630-7
FLN29red04	2 Poles	ON-ON	Long Rocker	Red	Leadwire Hooking Type	Silver	2-6437630-7
FLN19white04	2 Poles	ON-ON	Long Rocker	White	Leadwire Hooking Type	Silver	2-6437630-6
FLN29black04	2 Poles	ON-ON	Small Rocker	Black	Leadwire Hooking Type	Silver	2-6437630-5
FLN29red04	2 Poles	ON-ON	Small Rocker	Red	Leadwire Hooking Type	Silver	4-6437630-7
FLN29white04	2 Poles	ON-ON	Small Rocker	White	Leadwire Hooking Type	Silver	2-6437630-3

<b>ACCESSORIES</b>			
Product Key	Switch Compatibility	Color	Part Number
Bezel	FL Series	Black	9-6437631-0
Bezel	FL Series	Red	9-6437631-1
Cap04	F Series Toggles	Black	9-6437630-0

# How to Specify in a Switch

## Electrical Considerations

Voltage of Applications: \_\_\_\_\_ Current of Application: \_\_\_\_\_

Circuitry Configuration: Number of Poles: \_\_\_\_\_ Number of Throws: \_\_\_\_\_

Number of Operations anticipated: \_\_\_\_\_

Agency Approvals or Listings Desired: \_\_\_\_\_

## Mechanical Considerations

Type of Switch (Actuator Type): \_\_\_\_\_ Toggle \_\_\_\_\_ Pushbutton \_\_\_\_\_ Rotary \_\_\_\_\_ Rocker \_\_\_\_\_ Other

Switch Function (On/Off/On): \_\_\_\_\_ On/Off: \_\_\_\_\_ Momentary: \_\_\_\_\_

Termination: \_\_\_\_\_ Thru-Hole (PC) \_\_\_\_\_ Surface Mount \_\_\_\_\_ Wire Lug \_\_\_\_\_ Quick Connect \_\_\_\_\_ Other

Sealing Contamination Requirements: \_\_\_\_\_

## Product Processing Considerations

Anticipated Soldering Process: \_\_\_\_\_ Hand \_\_\_\_\_ Wave \_\_\_\_\_ SMT \_\_\_\_\_ Other

## FOR MORE INFORMATION

### TE Technical Support Center

USA:	+1 (800) 522-6752
Canada:	+1 (905) 475-6222
Mexico	+52 (0) 55-1106-0800
Latin/S. America:	+54 (0) 11-4733-2200
Germany:	+49 (0) 6251-133-1999
UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
Netherlands:	+31 (0) 73-6246-999
China:	+86 (0) 400-820-6015

Part numbers in this brochure are RoHS Compliant\*, unless marked otherwise.

\*as defined [www.te.com/leadfree](http://www.te.com/leadfree)

### te.com

© 2011 Tyco Electronics Corporation, a TE Connectivity Ltd. Company. All Rights Reserved.

1-1773458-9 CIS LUG FP 1M 04/2011

TE Connectivity, TE connectivity (logo) and TE (logo) are trademarks. Other logos, product and/or company names might be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А