COPAL ELECTRONICS

HYPER-MINIATURE LEVER & ROCKER SWITCHES



■ FEATURES

- It is of ultra-compact type. The volumetric ratio is half that of the conventional series A.
- Immersion cleaning is possible after soldering.
- Terminal mounting is at 0.1-inch pitches.
- Independent detent mechanism provides light feel operability.
- Regarding the contact reliability, a long-term stability is assured by the clip contact.
- Gold-plated contacts make these switches ideal for use with extremely small current.
- All plastic construction prevents a malfunction due to static electricity.

■ SPECIFICATIONS

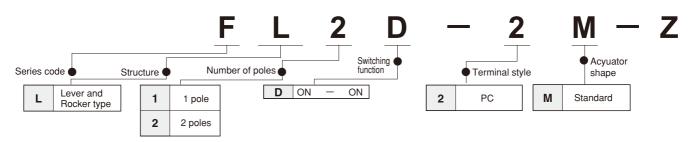
PART NUMBERING

| Rating | Max : 0.4VA (28VDC max.) Min: 1 µA 20mVDC | | |
|--------------------------------|---|--|--|
| Initial contact resistance | 100m Ω max. (1.5mA 200 μ VAC) | | |
| Dielectric strength | 250VAC 1 minute | | |
| Insulation resistance | 500MΩmin (250VDC) | | |
| Electrical life | 10,000 cycles at max. rating 50,000 cycles at min. rating (D type) | | |
| Operating temperature range | -40~+85°C | | |
| Storage temperature range | −40~+85°C | | |

RoHS compliant

■ TABLE OF PART NUMBES

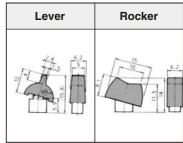
| Number of poles | Terminal style | Switching function | Part No. |
|-----------------|----------------|--------------------|-----------|
| 1 pole | PC terminal | ON - ON | FL1D-2M-Z |
| 2 poles | PC terminal | ON - ON | FL2D-2M-Z |



STANDARD ACCESSORIES

| Part name | Lever | Rocker | Rocker | |
|------------|--|--|--------------|------|
| Dimensions | Gloss finish $r_{0.2}$ $r_{0.2$ | Gloss finish <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> <u>R0.5</u> | Gloss finish | |
| White | 140000050858 | 140000481410 | 140000481594 | ●Lev |
| Red | 140000050859 | 140000481411 | 140000481595 | acc |
| Black | 140000050860 | 140000481412 | 140000481596 | the |
| Gray | 140000050861 | 140000481413 | 140000481597 | nun |

LEVER · ROCKER MOUNTING



Lever/Rocker is a standard accessory. Please choose one of them by specifying the part number.

%Please contact us if you can't find your preferable combination in the table of part numbers.

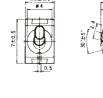
Specifications are subject to change without notice. Specifications in this catalog are for reference. The formal specification sheets will be submitted upon request.

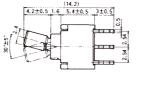


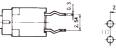
FL **HYPER-MINIATURE LEVER & ROCKER SWITCHES**

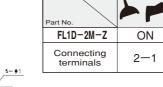
OUTLINE DIMENSIONS











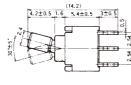
| Switching function | Viewed from part No. marking side | | | |
|-------------------------|-----------------------------------|---|-----|--|
| Part No. | × • | | | |
| FL1D-2M-Z | ON | | ON | |
| Connecting terminals | 2—1 | _ | 2—3 | |

PC

DPDT



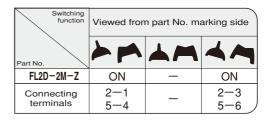






PC Hole Layouts

2.54



Mount with Lever

PC

Terminal number not shown on box

Terminal number not shown on box



■ FLUX CLEANING

- (1) Solvents : Fluorine or Alcohol type
- (2) Cleaning shall be made when terminal temperature falls to 90°C or lower. Or, leave the switch at normal temperature for 5 minutes or longer, before cleaning.
- (3) Do not apply ultrasonic cleaning.

■ SOLDERING

- (1) Hand soldering Device : Solder iron 380°C Max. 3 sec. Max.
- (2) Auto soldering Device : Wave or dip type 275°C Max. 6 sec. Max.

Preheat should be within 80-120°C and less than 120 sec.

(3) When soldering two or more terminals to the common land, use solder resist to solder them independently.

PACKAGING SPECIFICATION

