

# FUJITSU Component Thermal Printer

## FTP-63GMCL153/453 series

Fujitsu 3" high speed (up to 200mm/s) thermal printer mechanism with cutter option

### Overview

The FTP-63GMCL series thermal printer driven by 24VDC provides high speed printing (up to 200mm/s) for 3-inch wide paper.

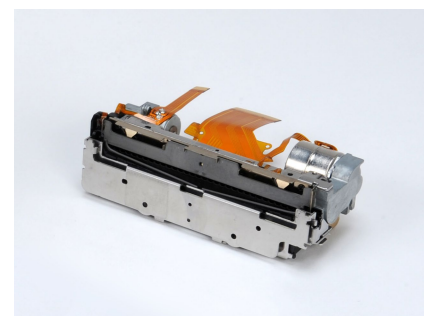
The series is suitable for a variety of applications, such as POS/ECR, kiosk terminals, ticket machines, label printers, banking machines, measuring devices, medical equipment, etc.

### Features

- **High-speed printing**  
It can print up to 200mm/s (1600 dotlines/s) maximum by using Fujitsu Components' unique head drive control
- **Rear paper insertion mechanism with lock type**  
Fujitsu Components' unique platen release mechanism allows for a straight paper path and easy head maintenance
- **Auto Cutter**  
Optional ultra-low profile auto cutter (full/partial cut) comes mounted from the factory.
- **Multi-feature diecast frame**  
The rugged die-cast frame provides excellent ESD performance, is shock/vibration resistant and the heat-sink allows for continuous printing
- **Compact size**  
Depth: 20.4mm, width: 96.2mm, height: 36.3mm (FTP-63GMCL153)  
Depth: 32.4mm, width: 100.5mm, height: 45.6mm (FTP-63GMCL453)
- **High resolution**  
8 dots/mm head provides clear print
- **Paper width**  
80mm
- **RoHS compliant**
- **UL recognized. File number E171434**



FTP-63GMCL153



FTP-63GMCL453

## ■ Part numbers

| Item                  |                     | Part Numbers                                |
|-----------------------|---------------------|---------------------------------------------|
| Printer mechanism     | Back insertion      | FTP-63GMCL153                               |
| Mechanism with cutter | Rear insertion      | FTP-63GMCL453                               |
| LSI for driving       |                     | Under development                           |
| Interface board       | Serial (RS232C/USB) | FTP-62GDSL001#01 (Japanese font)            |
|                       | Serial (RS232C/USB) | FTP-62GDSL001#02 (Traditional Chinese font) |
| Interface cable       | Serial              | FTP-62GY302                                 |
|                       | USB                 | FTP-62GY301                                 |
| Power supply cable    | Logic, head, motor  | FTP-62GY601                                 |

## ■ Specifications

| Item                                                  |                                 | Specifications                                                     |                                            |
|-------------------------------------------------------|---------------------------------|--------------------------------------------------------------------|--------------------------------------------|
| Part number                                           |                                 | FTP-63GMCL153                                                      | FTP-63GMCL453                              |
| Printing method                                       |                                 | Thermal sensitive line dot method                                  |                                            |
| Dot structure                                         |                                 | 576 dots/lines                                                     |                                            |
| Dot pitch (horizontal)                                |                                 | 0.125mm (8 dots/mm) - Dot density                                  |                                            |
| Dot pitch (vertical)                                  |                                 | 0.125mm (8 dots/mm) - Line feed pitch                              |                                            |
| Effective printing area                               |                                 | 72mm                                                               |                                            |
| Number of columns                                     |                                 | ANK 48 columns/line (12 x 24 x dot font), OCD 24 columns (24 x 40) |                                            |
| Paper width                                           |                                 | 80mm +0/-1                                                         |                                            |
| Paper thickness                                       |                                 | 60-150μm*1                                                         | 60-100μm*1                                 |
| Cutting type                                          |                                 | ---                                                                | Full or partial                            |
| Printing speed                                        |                                 | 200mm/s (1600 dot lines/s)                                         |                                            |
| Character types                                       | Alphanumeric KANA               | 159 types                                                          |                                            |
|                                                       | International and special       | 195 types                                                          |                                            |
|                                                       | OCRI                            | 103 types                                                          |                                            |
|                                                       | OCRIII                          | 23 types                                                           |                                            |
|                                                       | OCRIV                           | 103 types                                                          |                                            |
|                                                       | Extended numeric                | 12 types                                                           |                                            |
|                                                       | JIS KANJI level 1, 2, non-Kanji | JIS KANJI: approx. 6800                                            |                                            |
|                                                       |                                 | Traditional Chinese                                                | 13, 503                                    |
| Character dimensions (W x H),<br>number of characters |                                 | 8 x 16 dots, 72 columns, ANK                                       | 24 x 40 dots, 24 columns, OCRI             |
|                                                       |                                 | 12 x 24 dots, 48 columns, ANK                                      | 24 x 48 dots, 24 columns, OCRII            |
|                                                       |                                 | 16 x 16 dots, 36 columns, ANK                                      | 36 x 60 dots, 16 columns, OCRIV            |
|                                                       |                                 | 24 x 24 dots, 24 columns, ANK                                      | 24 x 48 dots, 24 columns, extended numeric |

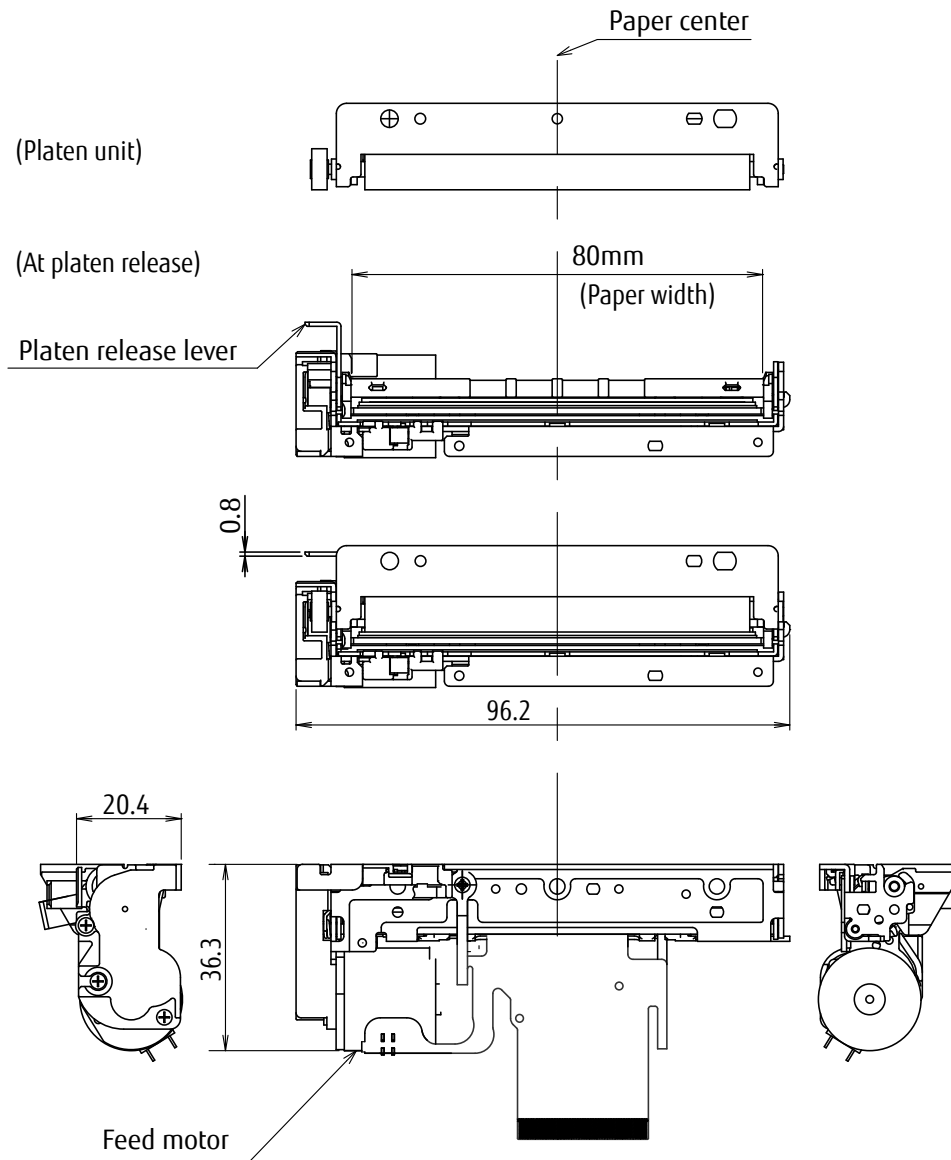
\*1: there may be exceptions

| Item                                      |                             | Specifications                                                                                                                               |                       |
|-------------------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Part number                               |                             | FTP-63GMCL153                                                                                                                                | FTP-63GMCL453         |
| Power                                     | For head                    | 24VDC $\pm 10\%$ 3A (24V, 1500 $\Omega$ , +25°C, concurrent applied dot number: 192 dots)                                                    |                       |
|                                           | For printer motor           | 24VDC $\pm 10\%$ 0.6A maximum                                                                                                                |                       |
|                                           | For logic                   | 3.3 or 5 VDC $\pm 5\%$ 0.1A maximum                                                                                                          |                       |
| Dimensions<br>(WxDxH)                     | Printer mechanism           | 96.2 x 20.4 x 36.3mm                                                                                                                         | ---                   |
|                                           | Printer mechanism w/ cutter | ---                                                                                                                                          | 100.5 x 32.6 x 45.6mm |
|                                           | Interface board (DCL/DSL)   | 70 x 35mm                                                                                                                                    |                       |
| Weight                                    | Printer mechanism           | 79g                                                                                                                                          | ---                   |
|                                           | Printer mechanism w/ cutter | ---                                                                                                                                          | 155g                  |
|                                           | Interface board (DCL/DSL)   | 15g                                                                                                                                          |                       |
| Expected life                             | Head                        | Pulse durability: 100 million pulse/dot (using Fujitsu Components' standard driving method)<br>Wear resistance: 100km (at 12.5% print ratio) |                       |
|                                           | Cutter                      | ---                                                                                                                                          | 500,000 cuts min.     |
| Environmental<br>conditions               | Operating temperature       | +5°C to +40°C (guarantee)                                                                                                                    |                       |
|                                           | Operating humidity          | 20 to 85% RH (no condensation)                                                                                                               |                       |
|                                           | Storage temperature         | -20°C to +60°C (excluding paper)                                                                                                             |                       |
|                                           | Storage humidity            | 5 to 95% RH (no condensation)                                                                                                                |                       |
| Detection functions                       | Head temperature            | By thermistor                                                                                                                                |                       |
|                                           | Paper out/Mark detect       | By photointerrupter                                                                                                                          |                       |
|                                           | Head release                | By slide switch                                                                                                                              |                       |
| Recommended<br>thermal sensitive<br>paper | High sensitive paper        | TF50KS-E45 (Nippon paper)                                                                                                                    |                       |
|                                           | Standard paper              | TF-60KS-E (Nippon paper)<br>PD150R (Oji paper)                                                                                               |                       |
|                                           | Medium term paper           | TF-60KS-F1 (Nippon paper)<br>PD170R (Oji paper)<br>P220VBB-1 (Mitsubishi paper)                                                              |                       |
|                                           | Long term paper             | PD160R-N (Oji paper)                                                                                                                         |                       |

## ■ Dimensions

- Printer mechanism 3-inch

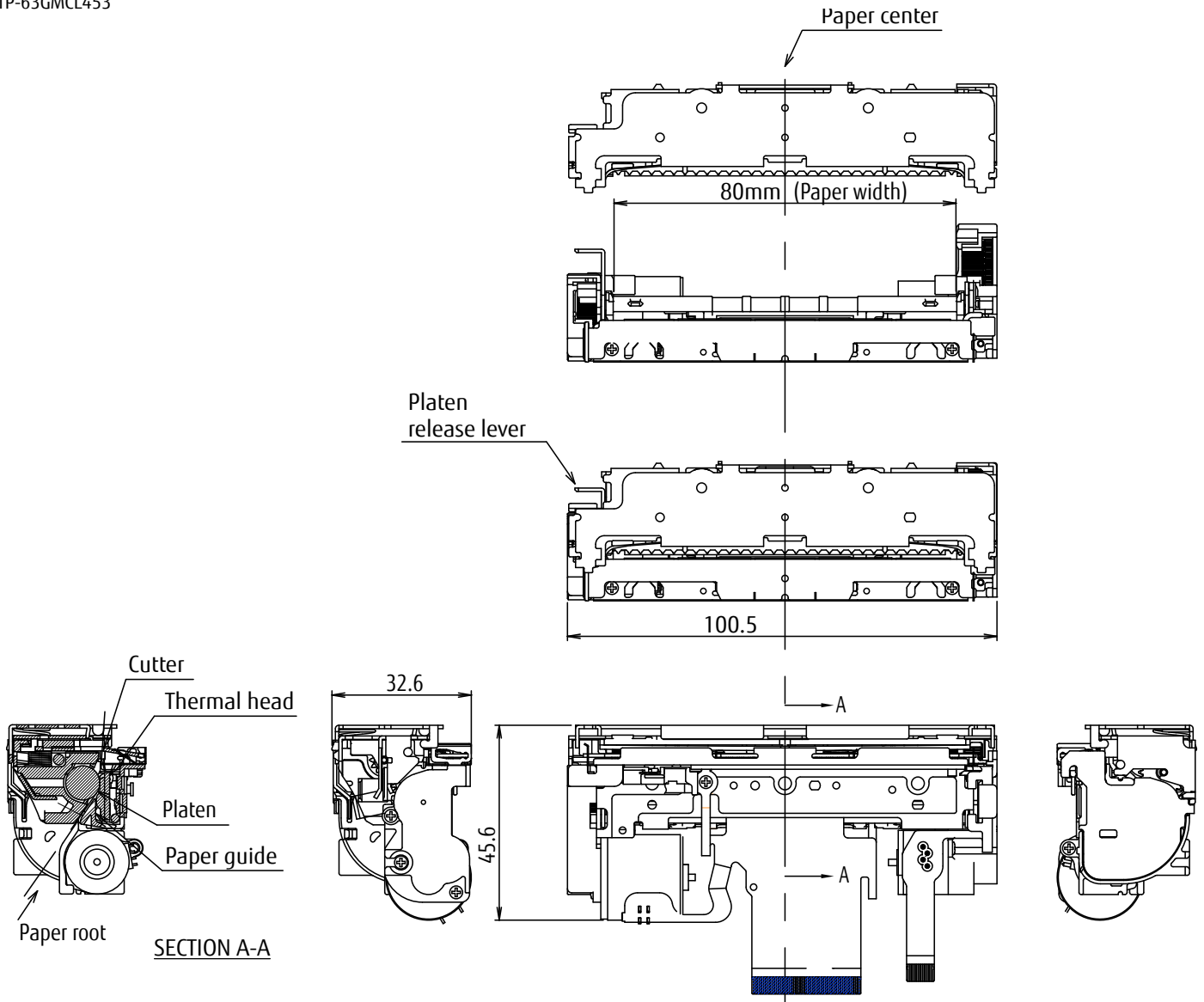
FTP-63GMCL153



- Note:
1. Dimensions are nominal value )tolerance  $\pm 0.5\text{mm}$  unless otherwise specified.
  2. Dimensions in ( ) is reference value.

- Printer mechanism / cutter 3-inch

FTP-63GMCL453



Note: 1. Dimensions are nominal value )tolerance  $\pm 0.5\text{mm}$  unless otherwise specified.  
2. Dimensions in ( ) is reference value.

- Connector pin assignments of printer mechanism (FPC)  
Recommended connector of head FPC: 54104-5031 (Molex ) or equivalent

| No | Signal | Content                       | I/O         |
|----|--------|-------------------------------|-------------|
| 1  | VSEN   | Paper sensor power            | IN          |
| 2  | PHK    | Cathode for photo interrupter | OUT         |
| 3  | PHE    | Emitter for photo interrupter | OUT         |
| 4  | N.C.   | Not connected                 | -           |
| 5  | VH     | Head drive power              | IN          |
| 6  | VH     | Head drive power              | IN          |
| 7  | VH     | Head drive power              | IN          |
| 8  | VH     | Head drive power              | IN          |
| 9  | DI     | Data in                       | IN          |
| 10 | /STB3  | /Strobe3                      | IN          |
| 11 | /STB4  | /Strobe4                      | IN          |
| 12 | VDD    | Logic power                   | IN          |
| 13 | GND    | Head ground                   | -           |
| 14 | GND    | Head ground                   | -           |
| 15 | GND    | Head ground                   | -           |
| 16 | GND    | Head ground                   | -           |
| 17 | GND    | Head ground                   | -           |
| 18 | GND    | Head ground                   | -           |
| 19 | GND    | Head ground                   | -           |
| 20 | GND    | Head ground                   | -           |
| 21 | TM     | Thermistor                    | OUT         |
| 22 | /STB1  | /Strobe1                      | IN          |
| 23 | /STB2  | /Strobe2                      | IN          |
| 24 | /LAT   | /Data latch                   | IN          |
| 25 | CLK    | Clock                         | IN          |
| 26 | VH     | Head drive power              | IN          |
| 27 | VH     | Head drive power              | IN          |
| 28 | VH     | Head drive power              | IN          |
| 29 | VH     | Head drive power              | IN          |
| 30 | N.C.   | Not connected                 | -           |
| 31 | SW     | Platen switch release         | OUT         |
| 32 | SW     | Platen switch release         | OUT         |
| 33 | MT_/A  | Excitation signal /A          | SINK/SOURCE |
| 34 | MT_/A  | Excitation signal /A          | SINK/SOURCE |
| 35 | MT_A   | Excitation signal A           | SINK/SOURCE |
| 36 | MT_A   | Excitation signal A           | SINK/SOURCE |
| 37 | MT_/B  | Excitation signal /B          | SINK/SOURCE |
| 38 | MT_/B  | Excitation signal /B          | SINK/SOURCE |
| 39 | MT_B   | Excitation signal B           | SINK/SOURCE |
| 40 | MT_B   | Excitation signal B           | SINK/SOURCE |

## ■ Connector pin assignments of cutter (FPC)

Recommended connector of cutter motor FPC: 52745-1297 (Molex) or equivalent

| No | Signal | Content                       | I/O         |
|----|--------|-------------------------------|-------------|
| 1  | MT_B   | Excitation signal B           | SINK/SOURCE |
| 2  | MT_B   | Excitation signal B           | SINK/SOURCE |
| 3  | MT_/B  | Excitation signal /B          | SINK/SOURCE |
| 4  | MT_/B  | Excitation signal /B          | SINK/SOURCE |
| 5  | MT_A   | Excitation signal A           | SINK/SOURCE |
| 6  | MT_A   | Excitation signal A           | SINK/SOURCE |
| 7  | MT_/A  | Excitation signal /A          | SINK/SOURCE |
| 8  | MT_/A  | Excitation signal /A          | SINK/SOURCE |
| 9  | N.C.   | Not connected                 | -           |
| 10 | VSEN   | Paper sensor power            | IN          |
| 11 | PHE    | Emitter for photo interrupter | OUT         |
| 12 | PHK    | Cathode for photo interrupter | OUT         |

### Contact

#### Japan

FUJITSU COMPONENT LIMITED  
Shinagawa Seaside Park Tower  
12-4, Higashi-shinagawa 4-chome,  
Tokyo 140 0002, Japan  
Tel: (81-3) 3450-1682  
Fax: (81-3) 3474-2385  
Email: fcl-contact@cs.jp.fujitsu.com  
Web: www.fujitsu.com/jp/group/fcl/en/

#### North and South America

FUJITSU COMPONENTS AMERICA, INC.  
2290 North First Street, Suite 212  
San Jose, CA 95131 U.S.A.  
Tel: (1-408) 745-4900  
Fax: (1-408) 745-4970  
Email: components@us.fujitsu.com  
Web: http://us.fujitsu.com/components/

#### Europe

FUJITSU COMPONENTS EUROPE B.V.  
Diamantlaan 25  
2132 WV Hoofddorp, The Netherlands  
Tel: (31-23) 5560910  
Fax: (31-23) 5560950  
Email: info@fceu.fujitsu.com  
Web: www.fujitsu.com/uk/products/  
devices/components/

#### Asia Pacific

FUJITSU COMPONENTS ASIA, Ltd.  
102E Pasir Panjang Road  
#01-01 Citilink Warehouse Complex,  
Singapore 118529  
Tel: (65) 6375-8560 / Fax: (65) 6273-3021  
Email: fcal@sg.fujitsu.com  
www.fujitsu.com/sg/products/devices/  
components/

#### China

FUJITSU ELECTRONIC COMPONENTS  
(SHANGHAI) CO., LTD.  
Unit 4306, InterContinental Center  
100 Yu Tong Road, Shanghai 200070, China  
Tel: (86 21) 3253 0998 / Fax: (86 21) 3253 0997  
Email: fcal@sg.fujitsu.com  
www.fujitsu.com/sg/products/devices/  
components/

#### Hong Kong

FUJITSU COMPONENTS HONG KONG Co., Ltd.  
Room 06, 28/F, Greenfield Tower, Concordia  
Plaza, No.1 Science Museum Road,  
Tsim Sha Tsui East, Kowloon, Hong Kong  
Tel: (852) 2881 8495 Fax: (852) 2894 9512  
Email: fcal@sg.fujitsu.com  
www.fujitsu.com/sg/products/devices/  
components/

#### Korea

FUJITSU COMPONENTS KOREA, LTD.  
Alpha Tower #403,  
645 Sampyeong-dong,  
Bundang-gu, Seongnam-si,  
Gyeonggi-do, 13524 Korea  
Tel: (82 31) 708-7108  
Fax: (82 31) 709-7108  
Email: fcal@sg.fujitsu.com  
www.fujitsu.com/sg/products/  
devices/components/

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