![Fujitsu logo] **Fujitsu** THE POSSIBILITIES ARE INFINITE

24V DRIVE, FTP-609 SERIES
ULTRA HIGH SPEED (200mm/s)
2" TYPE MECHANISM (Cutter option)
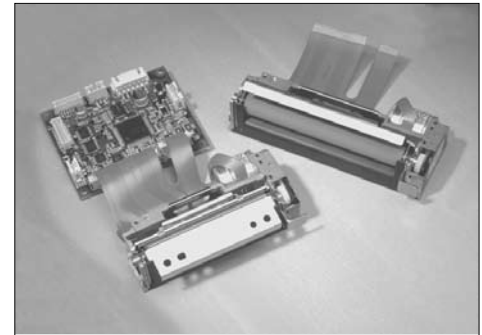
FTP-629MCL054/353/354-R

■ OVERVIEW

The FTP-609MCL Series thermal printer (driven by 24VDC) provides ultra-high speed printing (200mm/s) for 2-inch and 3-inch wide paper.

This 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.

■ HIGHLIGHTS

- **Ultra high speed printing**
  It can print at 200 mm/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 straight paper path and easy head maintenance.

- **Auto Cutter**
  Printer with auto cutter (full cut/ partial cut) is available. It can be mounted on top of the mechanism.

- **Multi-featuring diecast frame**
  By application of multi-featuring diecast frame, continous print by function of heat-sink, high ESD with stand by function of earth frame and shock/vibration resistance by function of solid frame are valid.

- **Compact size**
  Depth: 40.5mm, width: 82.2mm, height: 20.5mm for the 2-inch model. The 3-inch model has a width of 104.2mm

- **High resolution**
  8 dots/mm head provides clear print out.

- **RoHS compliant**

FTP-6x9MCL054R with
FTP-629DCL014R

■ PART NUMBERS

Name		Part Number		
Printer mechanism	Bottom insertion	FTP-629MCL054R	FTP-629MCL074R	FTP-629MCL054R
Mechanism with cutter	Front insertion	FTP-629MCL353R	TBA	FTP-629MCL353R
	Bottom insertion	FTP-629MCL354R	FTP-629MCL374R	FTP-629MCL354R
LSI		FTP-629CU101R	FTP-629SR201	FTP-629CU301R
Interface board	Parallel	FTP-629DCL014R	FTP-629DSL181R*	
	Serial (RS232C)	FTP-629DSL034R	FTP-629DSL181R*	FTP-629DSL301R
	USB	---	FTP-629DSL112R	FTP-629DSL301R
Thermal head cable extension		---	FTP-629Y001	---
Interface cable	Parallel	FTP-628Y202		---
	Serial	FTP-628Y302	FTP-629Y302	
	USB	---	FTP-629Y301	
Power supply cable	Logic	FTP-629Y401	---	
	Head, motor	FTP-629Y601		FTP-629Y602

*: Interface is selectable by DIP switch

■ GENERAL SPECIFICATIONS

Item	Specifications	
Part number	FTP-629MCL103R	FTP-629MCL383#01/#02-R
Printing method	Thermal sensitive line dot method	
Dot structure	432 dots/line	
Dot pitch (horizontal)	0.125mm (8dots/mm) - Dot density	
Dot ptich (vertical)	0.125mm (8dots/mm) - Line feed pitch	
Effective printing area	54 mm	
Number of columns	ANK 36 columns/line (12 x 24 dot font), OCR 24 columns	
Paper width	58 mm +0/-1	
Paper thickness	60 to 150μm (there may be exceptions)	60 to 100μm
Cutting type	---	full or partial
Printing speed	FTP-629DCL/DSL series	FTP-629DSL100 series/ FTP-629DSL300 series
	80mm/sec. (640 dot lines/sec.) line mode 200mm/sec. (1600 dot lines/sec.) image mode	125mm/sec. (1000 dot lines/sec.) line mode 200mm/sec. (1600 dot lines/sec.) page mode
Interface types	FTP-629DCL/DSL series FTP-629DCL/DSL100 series	FTP-629DSL300 series
Character types	Alphanumeric, Kana: International and special OCRI OCRIII OCRIV Extended numeric JIS Kanji level 1, level 2, non-Kanji	159 types 195 types about 6,800 types	159 types 195 types 103 types 23 types 103 types 11 types about 6,800 types
Character, dimensions (WxH), number of columns	(8x16 dots), 54 columns: ANK (12x24 dots), 36 columns: ANK (16x16 dots), 27 columns: ANK (24x24 dots), 18 columns: ANK	(24 x 40 dots), 18 columns, OCRI (24 x 48 dots), 18 columns, OCRII (36 x 60 dots), 12 columns, OCRIV (24 x 48 dots) 18 columns, extended numeric
Interface standard	Centronics, RS-232C, USB	Serial /USB

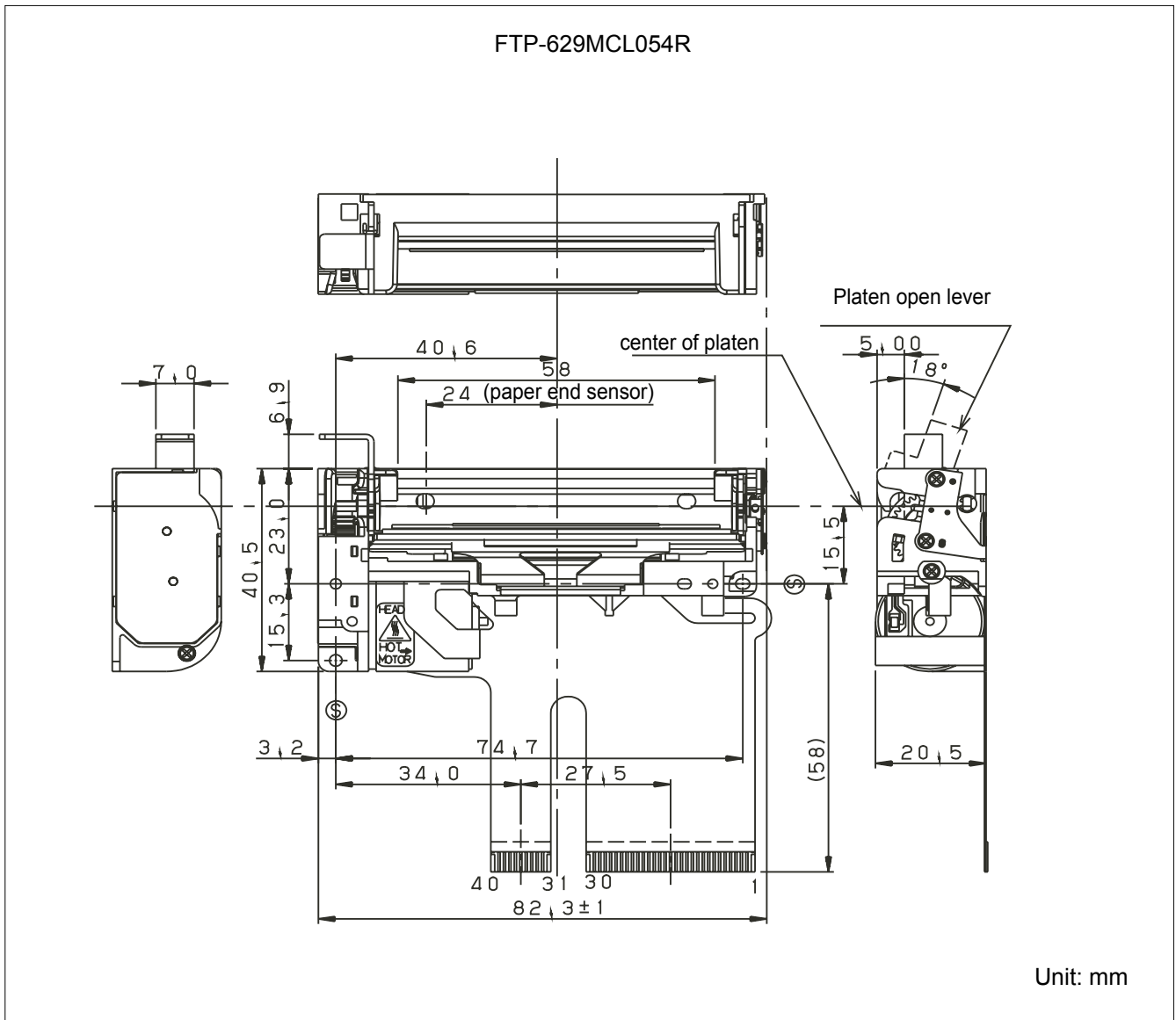| Item		Specifications	
Part number		FTP-629MCL054R	FTP-629MCL353/354-R
Interfaces		Centronics / RS-232C standard / USB	
Power supply	For head	24 VDC ±5% 1.4A (3A) (24V , 25% printing ratio)	
	For printer motor	24VDC±5% 1A maximum	
	For cutter motor	---	24VDC±5% 1.2 A maximum
	For logic	5VDC±5% 0.2 A maximum	
Dimensions Wx D x H	Printer Mechanism	$82.2 \times 40.5 \times 20.5$ mm	---
	Printer Mechanism w/cutter	---	$90.6 \times 62.5 \times 37.7$mm
	Interface board (standard)	$70 \times 60 \times 24$mm	
	Interface board (hi speed)	95.1 x 73.6 x 18.6mm	
	Interface board	77 x 50x 215mm	
Weight	Printer mechanism	Approximately 110g	---
	Printer mechanism w/cutter	---	Approximately 270g
	Interface board (standard)	Approximately 30g	
	Interface board (hi speed)	Approximately 45g	
	Interface	Approximately 22g	
Life	Head	Pulse durability: 1×10^8 pulse/dot (using Fujitsu Components' standard driving method) Wear resistance: 100 km (at 12.5% print ratio)	
	Cutter	---	500,000 cuts min.
Environmental conditions	Operating temperature	-25°C to +70°C (Guarantee)	-10°C to +55°C (Guarantee)
	Operating humidity	20 to 85% RH (no condensation)	
	Storage temperature	–40°C to +85°C (excluding paper)	–20°C to +60°C
	Storage humidity	5 to 95% RH (no condensation)	
Detection	Head temperature	By thermistor	
	Paper out/Mark detect	By photointerrupter	
	Head release	By slide switch	
Recommended thermal sensitive paper	High sensitivity paper	TF50KS-E4 (Nippon paper)	
	Standard paper	TF60KS-E (Nippon paper), FTP-020P0104 (58mm), PD150R (Oji paper), FTP-020P020P0701 (58mm)	
	Medium term paper	TP60KS-F1 (Nippon paper),FTP-020P0102(58mm), PD170R (Oji paper) P220VBB-1 (Mitsubishi paper) PD160R-N (Oji paper)	
	Long term paper	AFP-235 (Mitsubishi paper) TP50KJ-R (Nippon paper) HA220AA (Nippon paper)	

■ FUNCTION

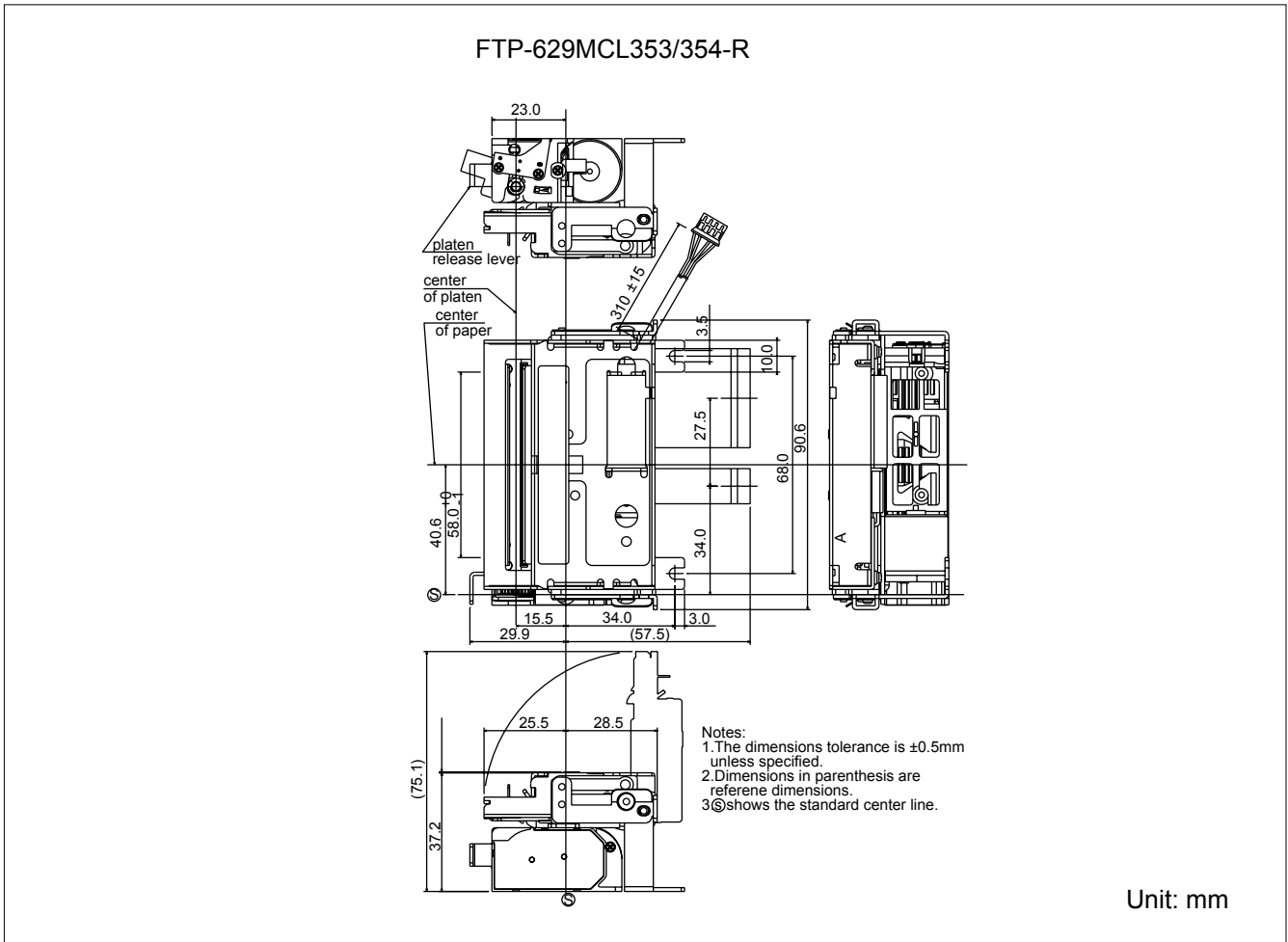|	ITEM			ITEM
1.	Test printing		8.	Cutter trouble detection
2.	Paper-out detection		9.	Motor power save
3.	Paper near end detection		10.	Mark detection
4.	Head-up detection		11.	MCU trouble detection
5.	Abnormal temp. of thermal head detection		12.	Power on/off sequence protection
6.	Blown fuse detection		13.	Motor protection
7.	Abnormal voltage detection of head		14.	Hardware timer

■ DIMENSIONS

1. Printer mechanism

FTP-629MCL054R

Unit: mm

2. Printer mechanism with cutter

FTP-629MCL353/354-R

Notes:
1. The dimensions tolerance is ±0.5mm unless specified.
2. Dimensions in parenthesis are referene dimensions.
3. ⌾ shows the standard center line.

Unit: mm

Interface board - FTP-629DCL/DSL0XX-R

Unit: mm

Connectors on Control Board - FTP-629DCL/DSL0XX-R

No.	Name	Function
CN1	Centro I/F Connector	Connection for Centronics Interface
CN2	RS-232C I/F Connector	Connection for RS-232C Interface
CN3	Thermal Head Connector	Connection for Thermal Head (FPC)
CN4	Printer Motor Connector	Connection for Printer Motor (FPC)
CN5	Cutter Connector	Connection for Paper Cutter
CN6	Logic Power Connector	Connection for +5V Power Supply
CN7	Head Motor Power Connector	Connection for +24V Power Supply
CN8	Near End Sensor Connector	Connection for Near End Sensor

3. Interface Board - FTP-629DCL/DSL100-R Series

Unit: mm

Connectors on Control Board - FTP-629DCL/DSL100-R Series

No.	Name	Function	Remark
CN1	Centro I/F Connector	Connection for Centronics Interface	
CN2	RS-232C I/F Connector	Connection for RS-232C Interface	
CN3	USB I/F Connector	Connection for USB Interface	
CN4	Power Connector	Connection for +24V Power Supply	
CN5	Thermal Head Connector	Connection for Thermal Head (FPC)	*1
CN6	Printer Motor Connector	Connection for Printer Motor (FPC)	*1
CN7	Head/Motor Connector	Connection for Thermal Head/Printer Motor	*1
CN8	Cutter Connector	Connection for Paper Cutter	
CN9	Conveyance Motor Connector	Connection for Conveyance Motor	
CN10	Near End Sensor Connector	Connection for Near End Sensor	
CN12	Mecha-Tilte/Mark Sensor Connector	Connection for Mecha-Tilte/Mark Sensor	
CN13	Conveyance Motor Connector	Connection for Conveyance Motor	

*1: When CN5 and CN6 are mounted, CN7 is not mounted. When CN7 is mounted, CN5 and CN6 are not mounted.

Interface boards for FTP-629DSL 300 Series

■ EXTERNAL DIMENSION SPECIFICATIONS

1. External Dimension Chart of the Control Circuit Substrate
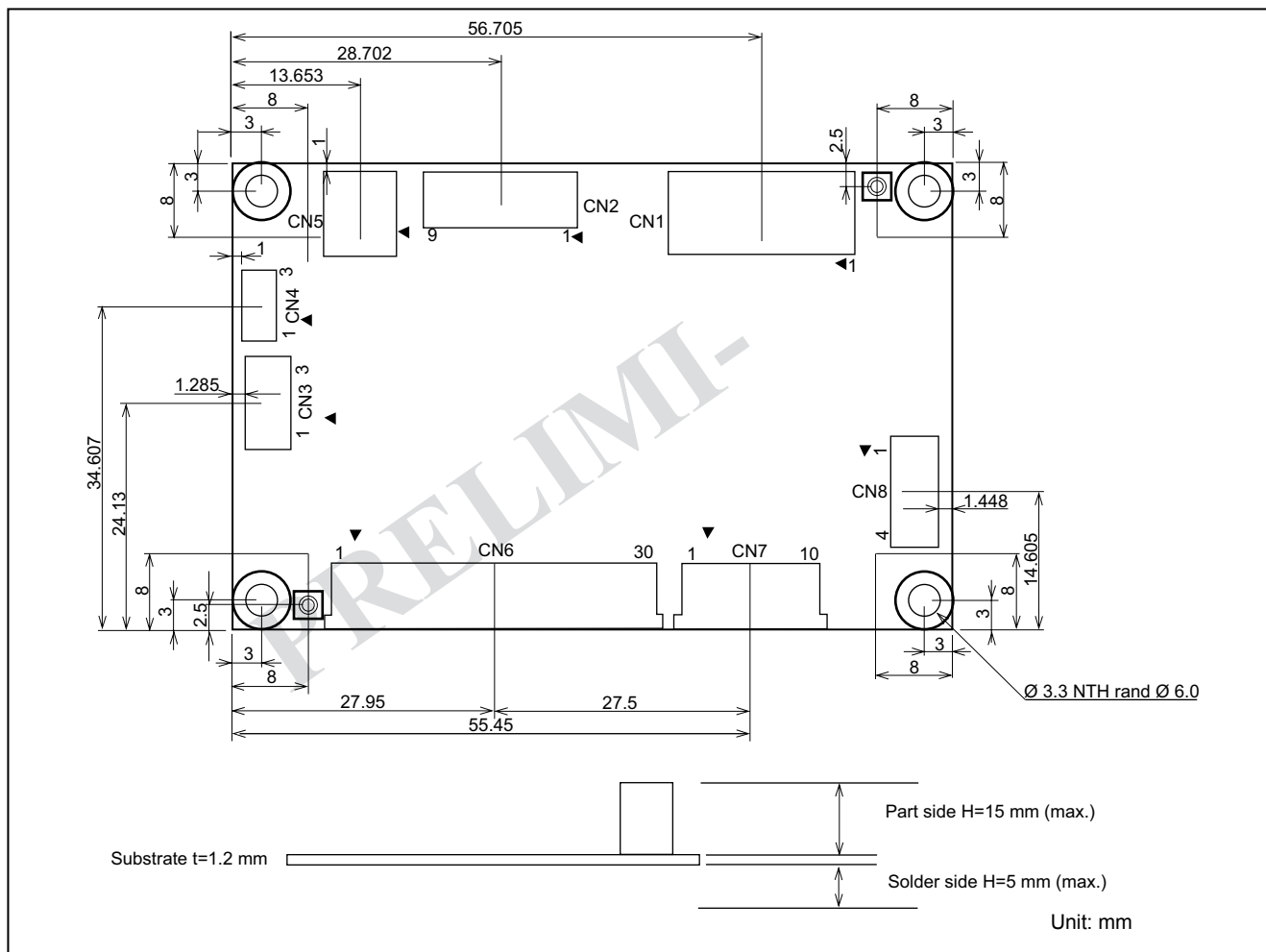
2. Connector Types of Control Circut Substrate

No.	Name	Function	Remarks
CN1	Power connector	To connect +24V and +5V power supply	-
CN2	Connector for RS-232C interface control signal connection	To connect RS-232C interface and control signal	depends on models
CN3	Near end switch connector	To connect Near End detection switch	-
CN4	Reserved connector	-	
CN5	USB interface connector	To connect USB interfaces	depends on models
CN6	Head connector	To connect the head	
CN7	Transport motor connector	To connect the transport	
CN8	Cutter connector	To connect the cutter	depends on models

■ CONNECTOR PIN ASSIGNMENT OF PRINTER MECHANISM (FPC)

1. Thermal head control circuit side

Part number　　　　　　　　　：　52610-3090 (Molex) or equivalent

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	SW	O	Platen open switch	2	SW	-	Platen open switch
3	VH	-	Power for thermal head	4	VH	-	Power for thermal head
5	VH	-	Power for thermal head	6	VH	-	Power for thermal head
7	DI	I	Data in	8	$\overline{STB2}$	I	Print enable 2
9	$\overline{STB3}$	I	Print enable 3	10	VDD	-	Power for logic
11	TM	-	Thermistor	12	GND	-	Head GND
13	GND	-	Head GND	14	GND	-	Head GND
15	GND	-	Head GND	16	GND	-	Head GND
17	GND	-	Head GND	18	GND	-	Head GND
19	GND	-	Head GND	20	GND	-	Head GND
21	TH	O	Thermistor	22	$\overline{STB1}$	I	Print enable 1
23	NC	I	Not connected	24	$\overline{LAT}$	I	Print data latch
25	CLK	I	Clock	26	DO	O	Data output
27	VH	-	Power for thermal head	28	VH	-	Power for thermal head
29	VH	-	Power for thermal head	30	VH	-	Power for thermal head

2. Motor, Sensor

Connector on circuit side　　　：　52610-1090 (Molex) or equivalent

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	NC	-	Not connected	2	TM	O	Motor temperature sensor
3	TM	-	Motor temperature sensor	4	MT/A	I/O	Motor coil excitation A
5	MTA	I/O	Motor coil excitation A	6	MT/B	I/O	Motor coil excitation B
7	MTB	I/O	Motor coil excitation B	8	PHK	-	Paper out sensor cathode
9	VSEN	-	Power for paper sensor	10	$\overline{PHE}$	O	Paper out sensor emittor

3. Cutter

Connector type:　　　　　　B4B-PH-SM3-TB (J.S.T.) or equivalent

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	SW1	O	Cutter home position switch	2	SW2	O	Cutter home position switch
3	M+	I/O	Cutter motor drive	4	M-	I/O	Cutter motor drive

■ INTERFACE, COMMAND, OPTIONS

Please refer to the FTP-629DCL/DSL or FTP-629DCL/DSL100/300 series datasheet.

Fujitsu Components International Headquarter Offices

Japan
Fujitsu Component Limited
Gotanda-Chuo Building
3-5, Higashigotanda 2-chome, Shinagawa-ku
Tokyo 141, Japan
Tel: (81-3) 5449-7010
Fax: (81-3) 5449-2626
Email: promothq@ft.ed.fujitsu.com
Web: www.fcl.fujitsu.com

Europe
Fujitsu Components Europe B.V.
Diamantlaan 25
2132 WV Hoofddorp
Netherlands
Tel: (31-23) 5560910
Fax: (31-23) 5560950
Email: info@fceu.fujitsu.com
Web: emea.fujitsu.com/components/

North and South America
Fujitsu Components America, Inc.
250 E. Caribbean Drive
Sunnyvale, CA 94089 U.S.A.
Tel: (1-408) 745-4900
Fax: (1-408) 745-4970
Email: components@us.fujitsu.com
Web: http://us.fujitsu.com/printers/

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@fcal.fujitsu.com
Web: http://www.fujitsu.com/sg/services/micro/components/