

## TPH for Receipt Printers and Mobile Receipt printers



### EM Series

#### Features

New protecting layer with high melting point and LSI/Assembly technology from Mitsubishi Electric Corporation. Contribution to slim and compact design.

VH/VDD 2.7V applicable, single lithium battery driving type.

#### Application

EFT-POS, ECR-POS, various meters and terminals.

Model	EM16N	EM24N	EM48NL	EM48N	EM64N	EM72N	EM104N
Resolution (dpi)	200						
Printing Width (mm) *1	16	24	48	48	64	72	104
Number of dots (dots)	128	192	384	384	512	576	832
Resistance (Ω)	176	176	123	176	176	176	176
Platen Roller size (MaxΦ)	8						
Printing Speed (mm/s)	75						
Clock Speed (Max MHz)	5MHz						
Logic (V)	3.3V - 5V						
Head voltage (V)	3.3V - 8.5V						
Run length (km)	50						
Pulse activation (Pulses)	1x10 <sup>8</sup>						
Heatsink *4	Aluminum/Platic/Steel						
Interface *5	Connector/FFC/FPC						

### EC Series

#### Features

New printing layer with high melting point and LSI/Assembly technology from Mitsubishi Electric Corporation. Solution of slim and compact design. VH/VDD 2.7V applicable, single lithium battery driving type

### Application

ECR-POS expected heavy duty and poor environment esp. poor paper.

Model	EC48N	NC48
Resolution (dpi)	200	
Printing Width (mm) *1	48	72
Number of dots (dots)	384	576
Resistance (Ω)	176	176
Platen Roller size (MaxΦ)	Only 8 *2	Only 10 *3
Printing Speed (mm/s)	75	
Clock Speed (Max MHz)	5MHz	
Logic (V)	3.3V - 5V	
Head voltage (V)	3.3V - 8.5V	
Run length (km)	50	
Pulse activation (Pulses)	1x10 <sup>8</sup>	
Heatsink *4	Aluminum/Platic/Steel	
Interface *5	Connector/FFC/FPC	

## ET Series

### Features

New LSI technology and optimum circuit design, lower inner on-resistance, new concentrated heating structure with high efficiency, energy-saving 20% realized.

### Application

ECR-POS, Mobile POS expected heavy duty and poor environment esp. poor quality paper

Model	ET48
Resolution (dpi)	200
Printing Width (mm) *1	48
Number of dots (dots)	384
Resistance (Ω)	176
Platen Roller size (MaxΦ)	8
Printing Speed (mm/s)	100
Clock Speed (Max MHz)	5MHz
Logic (V)	3.3V - 5V

Head voltage (V)	3.3V - 8.5V
Run length (km)	50
Pulse activation (Pulses)	1x10 <sup>8</sup>
Heatsink *4	Aluminum/Platic/ Steel
Interface *5	Connector/FFC/FPC

## EF Series

### Features

New coating with high melting point and new structure with higher heating conductivity.  
Solution of mobile, handy, high speed design. Typical printing speed 100mm/s, max 150mm/s.

### Application

High speed mobile receipt printers and handy barcode printers, medical usage.

Model	EF48	EF72N
Resolution (dpi)	200	
Printing Width (mm) *1	48	72
Number of dots (dots)	384	576
Resistance (Ω)	176	176
Platen Roller size (MaxΦ)	8	
Printing Speed (mm/s)	100	
Clock Speed (Max MHz)	5MHz	
Logic (V)	3.3V - 5V	
Head voltage (V)	3.3V - 8.5V	
Run length (km)	50	
Pulse activation (Pulses)	1x10 <sup>8</sup>	
Heatsink *4	Aluminum/Platic/Steel	
Interface *5	Connector/FFC/FPC	

## K Series

### Features

Most appropriate design for 100-180mm/s with good printing quality and energy saving effect.  
Convenient power design.

### Application

Lottery, Medical, middle speed POS with power supplied by car or computer.



Model	K16	K48	K56	K80	KX80
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Resolution (dpi)	200				
Printing Width (mm) *1	16	48	56	80	80
Number of dots (dots)	128	384	448	640	640
Resistance ( $\Omega$ )	300				
Platen Roller size (Max $\Phi$ )	17				
Printing Speed (mm/s)	125				
Clock Speed (Max MHz)	5MHz				
Logic (V)	3.3V - 5V				
Head voltage (V)	12V				
Run length (km)	100				150
Pulse activation (Pulses)	1x10 <sup>8</sup>				
Heatsink *4	Aluminum				
Interface *5	15 pin Connector				

\*1 Design technology from Mitsubishi, customized design with any printing width at lower cost.

\*4 Customized head support according to customers.

Material-Aluminum, Steel, Stainless, Plastic.

Process-Extrude, Die Cast, Injection, Press.

\*5 Various solution for customers.

Connector.

FFC direct soldering.

FPC direct soldering.



## B Series

### Features

Most appropriate design for low speed application, max 100mm/s.

Optional hard coating according to requests on poor paper and environment.

### Application

Low speed POS printers, ECR POS, receipt printers etc. BLX series esp. for high durability and poor

Model	B48	B56	B72	B80	B104	B216	BLX48	BLX56
Resolution (dpi)	200							
Printing Width (mm) *1	48	56	72	80	104	216	48	56
Number of dots (dots)	384	448	576	640	832	1728	384	384
Resistance ( $\Omega$ )	2,2							

Platen Roller size (MaxΦ)	14
Printing Speed (mm/s)	75
Clock Speed (Max MHz)	5MHz
Logic (V)	3.3V - 5V
Head voltage (V)	24V
Run length (km)	100
Pulse activation (Pulses)	1x10 <sup>8</sup>
Heatsink *4	Aluminum
Interface *5	15 pin Connector

## CH Series

### Features

Most appropriate design for middle speed application, 100-150mm/s. Durable heat element with high SST (Step Stress Test), 3 times than normal ones. Optional hard coating for extra anti-abrasion and anti-corrosion.

### Application

Typical for Medical, Lottery and Barcode Scale.

Model	CH56	CH72	CH104	CH216	CHX56	CHX104
Resolution (dpi)	200					
Printing Width (mm) *1	56	72	104	216	56	104
Number of dots (dots)	448	576	832	1,728	448	832
Resistance (Ω)	700					
Platen Roller size (MaxΦ)	17					
Printing Speed (mm/s)	125					
Clock Speed (Max MHz)	20MHz					
Logic (V)	3.3V - 5V					
Head voltage (V)	24V					
Run length (km)	100				150	
Pulse activation (Pulses)	1x10 <sup>8</sup>					
Heatsink *4	Aluminum					
Interface *5	15 pin Connector					

## THX Series

### Features

Most appropriate design for middle speed application, 150-250mm/s. High performance of anti-abrasion with hard coating and FFS structure, eps. for poor paper and poor printing environment.

### Application

ECR POS, esp. for poor paper usage.

Model	THX48	THX56	THX64	THX72	THX80	THX104	THX216
Resolution (dpi)	200						
Printing Width (mm) *1	48	56	64	72	80	104	216
Number of dots (dots)	384	448	512	576	640	832	1728
Resistance ( $\Omega$ )	700						
Platen Roller size (Max $\Phi$ )	17						
Printing Speed (mm/s)	200						
Clock Speed (Max MHz)	20MHz						
Logic (V)	3.3V - 5V						
Head voltage (V)	24V						
Run length (km)	150						
Pulse activation (Pulses)	1x10 <sup>8</sup>						
Heatsink *4	Aluminum						
Interface *5	15 pin Connector						

## SX/3SX Series

### Features

High speed 250-300mm/s with good quality and energy saving effect.  
Super performance of anti-abrasion and anti-corrosion.

### Application

High speed ECR POS, esp. for poor paper and poor environment.

Model	SX56	SX72	SX80	SX104	3SX57	3SX105
Resolution (dpi)	200				300	
Printing Width (mm) *1	56	72	80	104	57	105
Number of dots (dots)	448	576	640	832	684	1,26
Resistance ( $\Omega$ )	700					
Platen Roller size (Max $\Phi$ )	16					
Printing Speed (mm/s)	300					
Clock Speed (Max MHz)	20MHz				30MHz	
Logic (V)	3.3V - 5V					

Head voltage (V)	24V
Run length (km)	150
Pulse activation (Pulses)	1x10 <sup>8</sup>
Heatsink *4	Aluminum
Interface *5	15 pin Connector

\*1 Design technology from Mitsubishi, customized design with any printing width at lower cost.

\*4 Customized head support according to customers.

Material-Aluminum, Steel, Stainless, Plastic.

Process-Extrude, Die Cast, Injection, Press.

\*5 Various solution for customers.

Connector.

FFC direct soldering.

FPC direct soldering.