

## CMOS 8-Bit Microcontroller

## TMP88PS38N/F

The TMP88PS38 is the high-speed and high performance 8-bit signal chip microcomputers which built in a program storage area (64 Kbyte), an OSD font storage area (24 Kbyte) and the One-Time PROM of vector table storage area (256 byte). The TMP88PS38 is pin compatible with the TMP88CS38. The operation possible with the TMP88PS38 can be performed by writing programs to PROM. The TMP88PS38 can write and verify in the same way as the TC571000D an EPROM programmer.

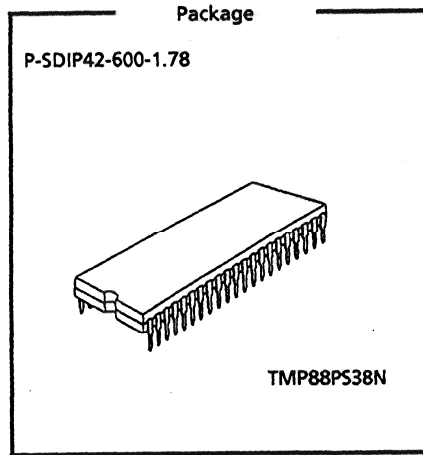
Part No.	OTP	RAM	Package	Adaptor Socket
TMP88PS38N	64 Kbyte (256 byte)	2 Kbyte	P-SDIP42-600-1.78	BM11174
TMP88PS38F	24 Kbyte		P-QFP44-1414-0.80D	BM11175

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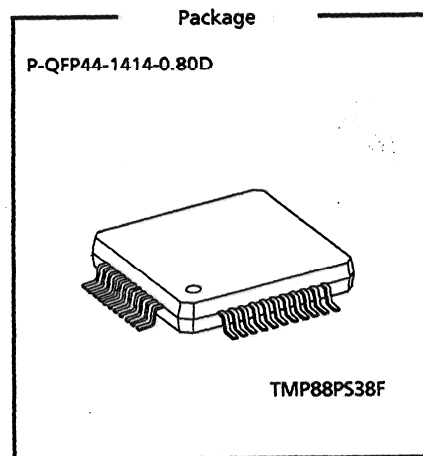
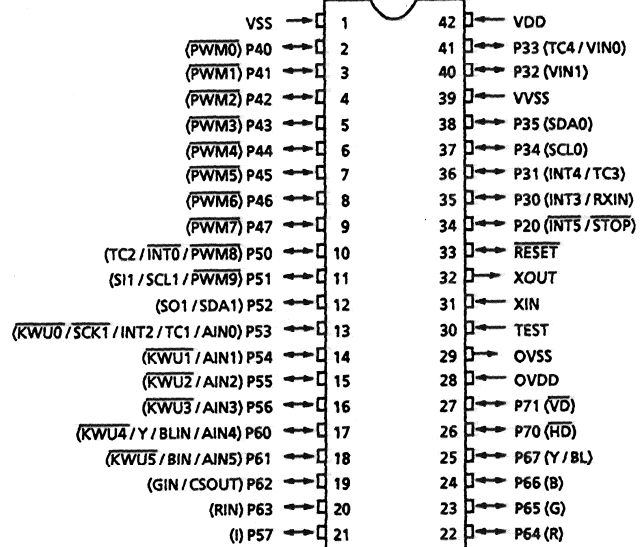


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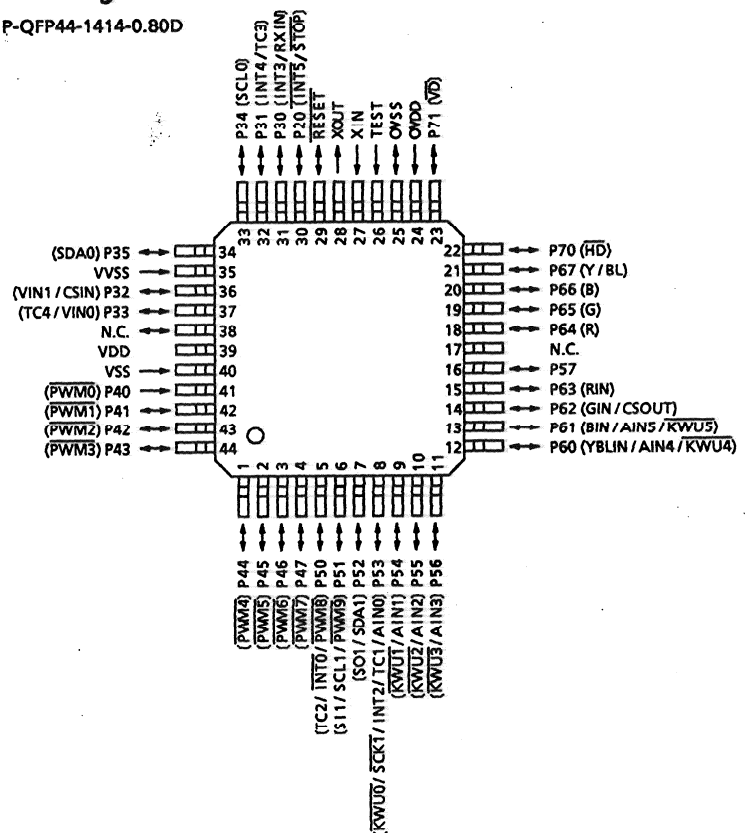
## Pin Assignments

P-SDIP42-600-1.78



## Pin Assignments

P-QFP44-1414-0.80D



## Operational Description

The configuration and function of the TMP88PS38 are the same as those of the TMP88CS38, except in that a one-time PROM is used instead of an on-chip mask ROM.

### 1. Operation mode

The TMP88PS38 has two mode: MCU and PROM.

#### 1.1 MCU mode

The MCU mode is activated by fixing the TEST/VPP pin at low level.

In the MCU mode, operation is the same as with the TMP88CS38.

##### 1.1.1 Program memory

The TMP88PS38 has a 64 Kbyte (addresses 04000H to 13EFFH in the MCU mode, addresses 10000H to 1FEFFH in the PROM mode) of program storage area, 24 Kbyte (addresses 20000H to 25FFFH in the MCU mode, addresses 0A000H to 0FFFFH in the PROM mode) and 256 byte (addresses FFF00H to FFFFFH in the MCU mode, addresses 1FF00H to 1FFFFH in the PROM mode) one-time PROM of vector table storage area.

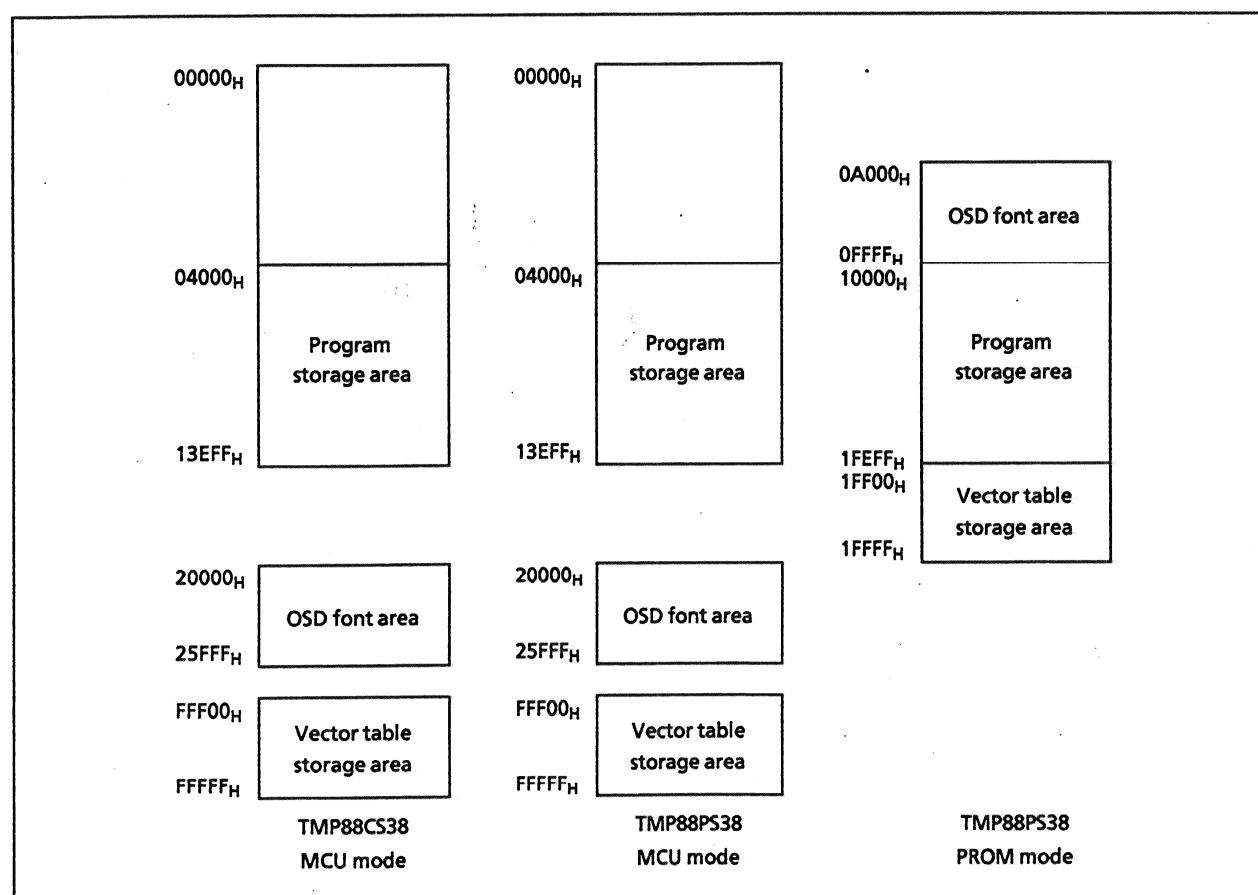


Figure 1.1 Program storage area

##### 1.1.2 Data memory

The TMP88PS38 has an on-chip 2 Kbyte data memory (static RAM).

## 1.2 PROM mode

The PROM mode is used to write and verify programs with a general-purpose PROM programmer. The high-speed programming mode can be used for program operation.

The TMP88PS38 is not supported an electric signature mode, so the ROM type must be set to TC571000D. Set the adaptor socket switch to "N".

Pin Name (EPROM mode)	Input / Output	Function	Pin name (MCU mode)
A16		PROM address	P60
A15 to A8	Input	inputs	P35, P63 to P61, P67 to P64
A7 to A0			P57 to P50
D7 to D0	I/O	PROM data input/output	P47 to p40
CE	Input	Chip enable signal input (active low)	P32
OE		Output enable signal input (active low)	P33
PGM		Program mode signal input	P30
VPP	Power supply	+ 12.75 V / 5 V (Program supply voltage)	TEST
VCC		+ 6.25 V / 5 V	VDD, OVDD
GND		0 V	VSS, VVSS, OVSS
P70	Input	PROM mode setting pin. Be fixed at high level.	
P71, P20, P31, P34		PROM mode setting pin. Be fixed at low level.	
RESET		PROM mode setting pin. Be fixed at low level.	
XIN	Input	Connect an 10 MHz oscillator to stabilize the state.	
XOUT	Output		
N.C.	OPEN	OPEN	

PROM programmer connection adaptor socket: BM11174 for TMP88PS38N  
BM11175 for TMP88PS38F