

# TMPM342FYXBG



The microcontroller incorporates 7.5-channel motor driver and Image correction control engine suitable for single-reflex camera lenses.

## Features

### ARM® Cortex®-M3 CPU Core

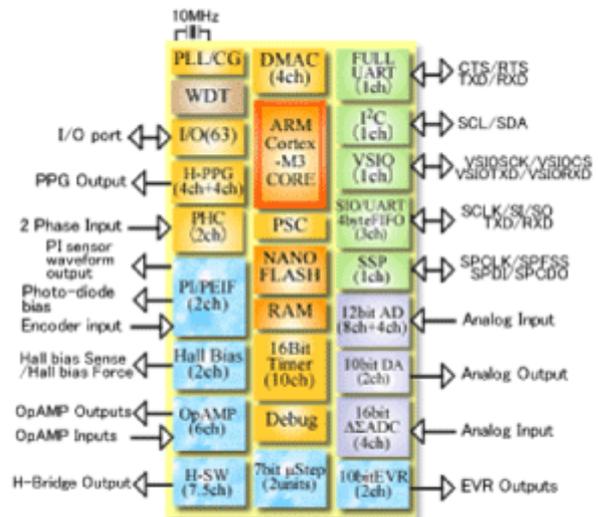
- ▶ Operating voltage:  
2.7 to 3.6V (on-chip regulator)
- ▶ Maximum Operating frequency:  
40 MHz
- ▶ On-chip debug circuit:  
SWD, SWV or 2-bit trace interface
- ▶ Power saving operation  
Clock gear  
Standby modes (IDLE, STOP1, STOP2)

### MCD (Motor Control Driver) part

- ▶ Operating voltage:  
3.1 to 3.5V (Analog power supply)  
2.5 to 5.5V (Motor power supply)

### Built-in Functions

- ▶ Programmable Servo/Sequence Controller (PSC)
- ▶ 2-phase pulse counter (PHC) : 2 channels
- ▶ High resolution 16-bit timer / PPG output : 2 units (4 + 4 channels)
- ▶ DMA controller : 4 channels
- ▶ I/O ports : 43 pins  
Input ports : 20 pins
- ▶ 16-bit  $\Delta\Sigma$  AD converter : 1 unit, 4 channel differential
- ▶ 12-bit AD converter : 8 + 4 channels (2 units)
- ▶ 10-bit DA converter : 2 channels
- ▶ 16-bit timer : 10 channels
- ▶ SIO/UART : 3 channels  
(1 channel is the same terminal as VSIO)
- ▶ Variable data length serial interface (VSIO): 1 channel
- ▶ I<sup>2</sup>C : 1 channel
- ▶ SSP : 1 channel
- ▶ FULL UART : 1 channel



### Memory Size

Part number	ROM (Flash)	RAM
TMPM342FYXBG	256 Kbytes	36 Kbytes(note1)

(note1): RAM size includes a main RAM(32Kbytes) and PSC RAM(4Kbytes).

### MCD part

- ▶ H-SW Driver : 7.5ch (includes 7bit  $\mu$ Step 2units)
- ▶ Hall Bias Control : 2 channels
- ▶ OpAmp : 6 channels
- ▶ PI/PE I/F : 2 channels
- ▶ 10bit EVR : 2 channels

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\* NANO FLASH is a trademark of Toshiba Corporation.

# Package Information

## Pin Assignments

	1	2	3	4	5	6	7	8	9	10	11	12	13
A	MODE	DAVSS	ADB VDD3	ADA VREFH	DA VREFH	DVDD 3_A	OP4NIN	OP0NIN	OP1NIN	OP5NIN	OP2NIN	OP3NIN	PH0
B	ADAVSS	PF7	PF5	PF3	PF1	ADA VDD3, DAVDD3	OP4PIN	OP0PIN	OP1PIN	OP5PIN	OP2PIN	OP3PIN	HB0F
C	PJ0	PJ4	PF6	PF4	PF2	PF0	OP4OUT	OP0OUT	OP1OUT	OP5OUT	OP2OUT	OP3OUT	HB1F
D	PJ1	PJ5	PG3	PG2	PG1	PG0	EVR0	DAOUTB	DAOUTA	EVR1	PB1	PB0	VM2
E	PJ2	PJ6	RESET	—	—	—	—	—	—	HB0S	PB2	CO2	CO1
F	PJ3	PJ7	—	PE0	—	—	—	—	—	HB1S	PB3	DO2	DO1
G	ADC REF02 OUT	ADC VREFH OUT	EFUSE	PE1	—	—	—	—	—	PB4	PH5	EO1	PGND2
H	ADB VSS, ADCVSS	ADC VREFL OUT	PE3	PE2	—	—	—	—	—	PB5	PB6	EO2	FO1
J	ADB VREFH, ADC VDD3	DVSS_A	PE4	PD7	—	—	—	—	—	PB7	PH4	GO1	FO2
K	V30IN	PD4	PD2	PD3	PC6	PC4	ENC OUT0	PICP IN1	PA6	PA7	PH3	GO2	VM3
L	PD0	PC0	PC2	PC3	PC7	PC5	ENC OUT1	PICP IN0	PA4	PA5	PH2	GO3	RNF3
M	PD6	PD5	PD1	PC1	DVSS_B	DVDD 3_B	PIDBA	PIDBB	PA2	PA3	BO2	AO2	PGND1
N	PH1	X2	DVSS_C	X1	AVSS_C	AVDD 3_C	RVDD3	PA0	PA1	VM1	BO1	AO1	FTEST3

Package : VFBGA142 (7 × 7 mm)

» For further information about Toshiba microcomputers and Toshiba microcomputer development systems, please visit <http://www.semicon.toshiba.co.jp/eng/product/micro/index.html>

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