

## 4-bit single chip microcontroller

### ●RAMICS-4

4-bit microcomputer with versatile

#### Features

1. Operating voltage peripherals for easier expansion

●2.0-4.0V for 3.0  $\mu$ s minimum instruction time (@ 2MHZ)

●4.5-5.5V for 1.0  $\mu$ s minimum instruction time (@ 6MHZ)

Low voltage and fast process make this chip best suitable to fit on battery powered equipment.

2. MTP(EE) microcomputer series

●MTP microcomputer for each product

●Program can be repeatedly overwritten for system reviewing.

Program area is located in EEPROM to allow quick exchange of programs.

●All functions including those in masked options are compatible with those in masked ROM. No additional components are required.

Masked option can be set by the user to make it

Compatible with the masked ROM. Evaluation can be conducted without using any additional component.

These features facilitate functional evaluation to keep the development with the schedule.

### ●RAMICS-4

Series	BU24421 (BU24407)	☆BU24821 (BU24807)	BU24422 (BU24410)	BU24822 (BU24810)	☆BU24823 (BU24805)	☆BU34224 (BU34204)	☆BU34424 (BU34404)	☆BU34671
ROM	4096 × 8	8192 × 8	4096 × 8	8192 × 8	8192 × 8	2048 × 8	4096 × 8	6144 × 8
RAM	128 × 4		256 × 4		256 × 4	128 × 4	256 × 4	128 × 4
Power supply	3V		3V		3V	5V		5V
Run time	6.0 $\mu$ sec(#1)		3.0 $\mu$ sec(#2)		3.0 $\mu$ sec(#2)	1.5 $\mu$ sec(#3)		1.0 $\mu$ sec(#4)
External interrupt	2		2		2	1		2
Internal interrupt	2		3		4	3		4
Timer counter	1H(clock)		1H(clock)		2H(clock)	8bit × 2		8bit × 2
Inputs	8		8		4			
Outputs					8			2
I/O's	10		12		20	10		12
SIO			8bit × 1		8bit × 1	8bit × 1		
High current output	1(15mA)		1(15mA)		8(15mA)			2(15mA)
A/D input					8bit × 8	8bit × 8		4bit × 4
D/A output								14bit × 1, 6bit × 6
LCD driver	28seg × 4com		36seg × 4com		8seg × 3com	24seg × 4com		
Display RAM	28 × 4		36 × 4		8 × 4	24 × 4		
Generator	Dual clock main/sub		Dual clock main/sub		Dual clock main/sub	Dual clock main/sub		Main clock
Standby	HALT/STOP							
Package	QFP64		SQFP80		SQFP80	QFP64		QFP44/SDIP42
Development support tool	Assembler/in-circuit emulator							
MTP microcomputer	BU26821		BU26822		BU26823	BU36824		☆BU35671
Debug board	EV24407		EV24410		EV24805	EV34204		EV34671
Feature	Internal carrier generator for remote controller. Internal counter for clock.		Internal carrier generator for remote controller. Internal counter for clock. Communication with the main microcomputer through SIO.		Internal counter for clock various I/O functions	Can configure an audio spectram analyzer in conjunction with Rohm BA3830.		Microcomputer on small TV set. OSD 16 character × 2, 12 × 18 dot Remote controller timer

Notes : 1. ☆: Under development

2. Run time when clock is -#1=1MHZ; #2=2MHZ; #3=4MHZ; #4=6MHZ

3. For development support tools (debug board, in-circuit emulator), call.

4. For optionals (pull up or pull down), call for further information.

5. ( ) : old base.