RENESAS

News Release

Renesas Electronics Announces New RL78 Microcontrollers with Enhanced Real-Time Control Capabilities

Product Specifications of the RL78/G14 MCUs

Group name		RL78/G14			
Pin count	30-pin	32-pin	36-pin	40-pin	44-pin
Part no.	R5F104A	R5F104B	R5F104C	R5F104E	R5F104F
Flash ROM (Bytes)	16 K to 128 K			16 K to 192 K	16 K to 256 K
Data flash (Bytes)	4 K to 8 K				
RAM (Bytes)	2.5 K to 16 K			2.5 K to 20 K	2.5 K to 24 K
System clock	External main system clock: 1 MHz to 20 MHz Internal oscillation: 64/48/32/24/16/12/8/4/1 MHz Internal oscillation clock: 15 KHz			External main system clock: 1 MHz to 20 MHz External subsystem clock: 32.768 KHz Internal oscillation: 64/48/32/24/16/12/8/4/1 MHz Internal oscillation clock: 15 KHz	
CPU	RL78 CPU w/ multiplier/divider, MAC instruction				
I/O	26	28	32	36	40
Timer (Note 1)	16-bit: 8 ch 12-bit: 1 ch				
10-bit A/D	8 ch			9 ch	10 ch
8-bit D/A (Note 2)	2 ch				
Comparator (Note 3)	2 ch				
Serial I/F — CSI	3 ch		4 ch		
Serial I/F — UART	3 ch		3 ch		
Serial I/F — Simple I2C (Note 4)	3 ch		4 ch		
Serial I/F — I2C bus	1 ch				
Ext. interrupt	6 ch			7 ch	
DTC	28 to 34 sources			29 to 35 sources	
ELC	Event input: 20 to 25 ch, Event trigger output: 7 to 8 ch	Event input: 20 to 25 ch, Event trigger output: 7 to 9 ch		Event input: 20 to 26 ch, Event trigger output: 7 to 9 ch	
Other peripherals	Low voltage detector (LVD), power-on reset (POR), safety functions			Low voltage detector (LVD), power-on reset(POR), key return, real-time clock, safety functions	
Power supply voltage	1.6 V to 5.5 V				

Group name	RL78/G14
Operating ambient temperature	−40℃ to 85℃, −40℃ to 105℃(in planning)

Group name	RL78/G14				
Pin count	48-pin	52-pin	64-pin	80-pin	100-pin
Part no.	R5F104G	R5F104J	R5F104L	R5F104M	R5F104P
Flash ROM (Bytes)	16 K to 256 K	32 K to 256 K		96 K to 256 K	
Data flash (Bytes)	4 K to 8 K			8 K	
RAM (Bytes)	2.5 K to 24 K	4 K to 24 K		12 K to 24 K	
System clock	External main system clock: 1 MHz to 20 MHz External subsystem clock: 32.768 KHz Internal oscillation: 64/48/32/24/16/12/8/4/1 MHz Internal oscillation clock: 15 KHz				
CPU	RL78 CPUw/ multiplier/divider, MAC instruction				
I/O	44	48	58	74	94
Timer	16-bit: 8 ch 12-bit: 1 ch			16-bit: 12 ch 12-bit: 1 ch	
10-bit A/D	10 ch	12 ch		17 ch	20 ch
8-bit D/A	2 ch				
Comparator	2 ch				
Serial I/F — CSI	5 ch		6 ch	8 ch	
Serial I/F — UART	3 ch		3 ch	4 ch	
Serial I/F — Simple I2C	5 ch		6 ch	8 ch	
Serial I/F — I2C bus	1 ch			2 ch	
Ext. interrupt	10 ch	12 ch	13 ch		
DTC	30 to 36 sources		31 to 37 sources	39 sources	
ELC	Event input: 20 to 26 ch, Event trigger output: 7 to 9 ch				
Other peripherals	Low voltage detector (LVD), power-on reset (POR), key return, real-time clock, safety functions				
Power supply voltage	1.6 V to 5.5 V				
Operating ambient temperature	−40℃ to 85℃, −40℃ to 105℃ (in planning)				

Notes

(Note 1) 12-bit timer is only for interval timer.
(Note 2) Under 64 KB flash ROM products are not supported.
(Note 3) Under 64 KB flash ROM products are not supported.
(Note 4) Maximum value when used by itself. For example, UART and simplified I2C cannot be used when R5F104A is used with CSI × 3 ch.

The content in the press release, including, but not limited to, product prices and specifications, is based on the information as of the date indicated on the document, but may be subject to change without prior notice.