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| ROM number | |
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**RENESAS ELECTRONICS
SINGLE-CHIP 16-BIT MICROCOMPUTER
R5F2L38AMNXXXFA
ROM PROGRAMMING CONFIRMATION FORM**

| | | |
|---------|--------------------------|------------------|
| Receipt | Date: | |
| | Section mgr signature | PIC signature |
| | | |

Note: Please fill in all items marked *.

| | | | | |
|-------------|--------------|---------------------------|---------------------|--------------|
| * Applicant | Company Name | TEL () | Applicant signature | Submitted by |
| | Date issued | Date: Year / Month / Date | | |

*** 1. Mask file**

Please kindly verify and confirm the mask file in the submitted CD-R prior to submission.
Please submit mask files on CD-R. And the number of the mask file must be 1 mask file per one CD-R.

Part Number R5F2L38AMNXXXFA

File Code

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
|--|--|--|--|--|--|--|--|

 (hexadecimal notation)

Mask file name

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
|--|--|--|--|--|--|--|--|

 .MSK (no more than 8 characters)

*** 2. Mask option**

Set the mask option in the mask file generating utility as follows:

Address : 10h Data : 01h

*** 3. ROM data which must be set by user**

Check the option function select registers (OFS, OFS2) and ID code areas to be set for appropriate values as ROM data.

OFS register OFS2 register ID code areas

CAUTION:

Note 1 : ROM order of this product programs the Data Flash area.

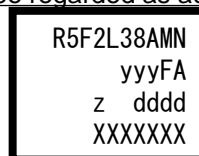
Note 2 : ROM data confirmation request

ROM programming will be processed based on the mask file generated by the mask file generating utility. Only in case when ROM data programmed in the actual mass produced product differs from that of above mentioned mask file, RENESAS takes the responsibility. There is no Engineering Sample, thus please confirm the ROM data at the receipt of the Initial product delivery.

Should you find any problem, please return immediately. 2 weeks without technical error feedback towards RENESAS will automatically be regarded as acceptance of products.

Note 3 : Mark specification

Please refer to Fig. 1 about mark specification.



yyy : ROM number
XXXXXXX : Lot number
d,z : Internal supervision number

Fig. 1

RENESAS ELECTRONICS SINGLE-CHIP 16-BIT MICROCOMPUTER R5F2L38AMNXXXFA

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Usage conditions

For our reference of new products, please reply to the following questions about the usage of the products you ordered.

(1) What is the voltage of power supply (Vcc) you use?

Typ. = _____ V Min. = _____ V Max. = _____ V

(2) What is the ambient temperature you use?

Typ. = _____ °C Min. = _____ °C Max. = _____ °C

(3) On which condition will you use Reset? (Plural answers are possible.)

Hardware Reset Power-on Reset Voltage monitor 0 Reset
 Watchdog timer Reset Software Reset

(4) On which condition will you use Voltage monitor 0 Circuit?

Use Not use
Voltage Detection 0 Level Select 3.80V 2.85V 2.35V 1.90V

(5) On which condition will you use Voltage monitor 1 Circuit?

Use Not use
Voltage Detection 1 Level Select 2.20V 2.35V 2.50V 2.65V
 2.80V 2.95V 3.10V 3.25V
 3.40V 3.55V 3.70V 3.85V
 4.00V 4.15V 4.30V 4.45V

(6) Will you use Voltage monitor 2 Circuit?

Use Not use
Voltage Detection 2 Target Vcc LVCMP2

(7) On which condition will you use High-speed clock?

High-Speed On-Chip Oscillator Use Not use
Frequency 40MHz 36.864MHz 32MHz
Division ratio Divide-by-_____mode

XIN-XOUT Oscillates Use Not use External clock input
Oscillator type Crystal Oscillator Ceramic resonator Others (_____)
Frequency f(XIN) = _____ MHz
Load capacity XIN side = _____ pF XOUT side = _____ pF
Internal feedback resistance Use Not use
Oscillation stop detection Use Not use

(8) On which condition will you use Low-speed clock?

XCIN-XCOUT Oscillates Use Not use
Oscillator type Crystal Oscillator Others (_____)
Frequency f(XCIN) = _____ kHz
Load capacity XCIN side = _____ pF XCOUT side = _____ pF
Internal feedback resistance Use Not use

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(9) On which condition will you use System clock division ratio?

- No division mode Divide-by-2 mode Divide-by-4 mode
 Divide-by-8 mode Divide-by-16 mode

(10) Which Power control mode will you use? (Plural answers are possible.)

- Wait mode Stop mode Power-off mode

(11) Will you use Flash memory?

- | | | |
|-----------------------------------|------------------------------|---|
| CPU rewrite mode | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| ROM code protect | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Low-Current-Consumption Read Mode | <input type="checkbox"/> Use | CPU clock frequency = _____kHz <input type="checkbox"/> Not use |
| Erase-suspend | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| BGO function | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |

(12) Which timer mode will you use?

- | | | |
|-----------------|---|---|
| Timer RA | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> Timer mode <input type="checkbox"/> Pulse output mode | <input type="checkbox"/> Event counter mode |
| | <input type="checkbox"/> Pulse width measurement mode | <input type="checkbox"/> Pulse period measurement mode |
| Count source | <input type="checkbox"/> f1 <input type="checkbox"/> f2 <input type="checkbox"/> f8 <input type="checkbox"/> fOCO | <input type="checkbox"/> fC32 <input type="checkbox"/> fC |
| Timer RB | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> Timer mode | <input type="checkbox"/> Programmable one-shot generation mode |
| | <input type="checkbox"/> Programmable waveform generation mode | <input type="checkbox"/> Programmable wait one-shot generation mode |
| Count source | <input type="checkbox"/> f1 <input type="checkbox"/> f2 <input type="checkbox"/> f8 <input type="checkbox"/> Timer RA under flow | |
| Timer RC | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> Timer mode <input type="checkbox"/> Input capture function | <input type="checkbox"/> Output compare function |
| | <input type="checkbox"/> PWM mode <input type="checkbox"/> PWM2 mode | |
| Count source | <input type="checkbox"/> f1 <input type="checkbox"/> f2 <input type="checkbox"/> f4 <input type="checkbox"/> f8 <input type="checkbox"/> f32 <input type="checkbox"/> fOCO40M | |
| | <input type="checkbox"/> fOCO-F <input type="checkbox"/> TRCCLK | |
| Timer RD | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Count | <input type="checkbox"/> Up count | <input type="checkbox"/> Down count |
| Operation mode | <input type="checkbox"/> Timer mode <input type="checkbox"/> Input capture function | <input type="checkbox"/> Output compare function |
| | <input type="checkbox"/> PWM mode <input type="checkbox"/> Reset synchronous PWM mode | <input type="checkbox"/> Complimentary PWM mode |
| | <input type="checkbox"/> PWM3 mode | |
| Operation Clock | <input type="checkbox"/> f1 <input type="checkbox"/> f2 <input type="checkbox"/> f4 <input type="checkbox"/> f8 <input type="checkbox"/> f32 <input type="checkbox"/> fC2 | |
| | <input type="checkbox"/> fOCO40M <input type="checkbox"/> fOCO-F <input type="checkbox"/> TRDCLK | |
| Timer RE | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> Output compare mode | <input type="checkbox"/> Real-time clock mode |
| Operation Clock | <input type="checkbox"/> f4 <input type="checkbox"/> f8 <input type="checkbox"/> f32 <input type="checkbox"/> fC4 | |
| Timer RG | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Count | <input type="checkbox"/> Up count | <input type="checkbox"/> Down count |
| Operation mode | <input type="checkbox"/> Timer mode <input type="checkbox"/> Input capture function | <input type="checkbox"/> Output compare function |
| | <input type="checkbox"/> PWM mode | |
| Operation Clock | <input type="checkbox"/> f1 <input type="checkbox"/> f2 <input type="checkbox"/> f4 <input type="checkbox"/> f8 <input type="checkbox"/> f32 <input type="checkbox"/> fC2 | |
| | <input type="checkbox"/> fOCO40M <input type="checkbox"/> TRGCLKA <input type="checkbox"/> TRGCLKB | |

(10) On which condition will you use System clock division ratio?

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(13) On which condition will you use UART?

- | | | |
|---|---|--|
| UART0 | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> Clock synchronous serial I/O mode | <input type="checkbox"/> Clock non-synchronous serial I/O mode |
| UART1 | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> Clock synchronous serial I/O mode | <input type="checkbox"/> Clock non-synchronous serial I/O mode |
| UART2 | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> Clock synchronous serial I/O mode | <input type="checkbox"/> Clock non-synchronous serial I/O mode |
| | <input type="checkbox"/> I2C mode | <input type="checkbox"/> Multiprocessor communication function |
| Synchronous Serial Communication Unit (SSU) | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> Clock synchronous communication mode | <input type="checkbox"/> 4 lines bus communication mode |
| I2C bus Interface | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Operation mode | <input type="checkbox"/> I2C bus interface mode | <input type="checkbox"/> Clock synchronous serial mode |
| LIN Module | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| | <input type="checkbox"/> Master mode | <input type="checkbox"/> Slave mode |

(14) On which condition will you use DTC?

- | | | |
|-------------------------|--------------------------------------|--------------------------------------|
| | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Transfer mode | <input type="checkbox"/> Normal mode | <input type="checkbox"/> Repeat mode |
| Transfer times = _____. | | |

(15) On which condition will you use A/D converter?

- | | | | | |
|------------------------------------|--|--|---|---|
| A/D input pin | <input type="checkbox"/> Use | <input type="checkbox"/> Not use | | |
| Conversion mode | Number of A/D input pins used = _____pins | | | |
| | <input type="checkbox"/> 8bit A/D | <input type="checkbox"/> 10bit A/D | | |
| A/D clock source | <input type="checkbox"/> f1 | <input type="checkbox"/> fOCO-F | | |
| Division ratio | <input type="checkbox"/> No division | <input type="checkbox"/> In frequency/2 | <input type="checkbox"/> In frequency/4 | <input type="checkbox"/> In frequency/8 |
| A/D Trigger | <input type="checkbox"/> Software | <input type="checkbox"/> Timer RD | <input type="checkbox"/> Timer RC | <input type="checkbox"/> External Trigger |
| | <input type="checkbox"/> Not use | | | |
| A/D Operation mode | <input type="checkbox"/> Single mode | <input type="checkbox"/> Repeat mode0 | <input type="checkbox"/> Repeat mode1 | |
| | <input type="checkbox"/> Single sweep mode | <input type="checkbox"/> Repeat sweep mode | Sweep pin = _____pins | |
| Disconnection-detection assistance | <input type="checkbox"/> Use | <input type="checkbox"/> Not use | | |

(16) Will you use D/A converter?

- | | |
|------------------------------|----------------------------------|
| <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
|------------------------------|----------------------------------|

(17) On which condition will you use ComparatorA?

- | | | |
|-------------------|---|--|
| Comparator A1 | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Reference voltage | <input type="checkbox"/> Internal reference voltage | <input type="checkbox"/> LVREF pin input voltage |
| Digital Filter | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Comparator A2 | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Reference voltage | <input type="checkbox"/> Internal reference voltage | <input type="checkbox"/> LVREF pin input voltage |
| Digital Filter | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |

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(18) On which condition will you use ComparatorB?

- | | | |
|----------------|------------------------------|----------------------------------|
| Comparator B1 | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Digital Filter | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Comparator B3 | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |
| Digital Filter | <input type="checkbox"/> Use | <input type="checkbox"/> Not use |

(19) On which condition will you use LCD Drive Control Circuit?

- | | | |
|--|--|---|
| <input type="checkbox"/> Use | <input type="checkbox"/> Not use | |
| Usage of LCD pins | Number of common pins used = _____ pins | Number of segment pins used = _____ pins |
| Bias | <input type="checkbox"/> 1/2 <input type="checkbox"/> 1/3 | <input type="checkbox"/> 1/4 |
| LCD panel waveform | <input type="checkbox"/> Segment panel waveform | <input type="checkbox"/> Dot matrix panel waveform |
| Usage of LCD panel | <input type="checkbox"/> 5V faction <input type="checkbox"/> 3V faction | <input type="checkbox"/> Others() |
| LCD Clock Source | <input type="checkbox"/> f4 <input type="checkbox"/> f32 | <input type="checkbox"/> fC-LCD |
| Division ratio | <input type="checkbox"/> In frequency/1 <input type="checkbox"/> In frequency/2 | <input type="checkbox"/> In frequency/4 <input type="checkbox"/> In frequency/8 |
| | <input type="checkbox"/> In frequency/16 <input type="checkbox"/> In frequency/32 | <input type="checkbox"/> In frequency/64 |
| <input type="checkbox"/> Use External division resistor | | |
| Range of LCD power supply voltage (VL4) | Min. = _____ V | Max. = _____ V |
| Division resistance | One Resister Value = _____ kΩ | |
| <input type="checkbox"/> Use Internal voltage multiplier circuit | | |
| Voltage of VL1 | <input type="checkbox"/> External input voltage = _____ V | <input type="checkbox"/> Internally-generated voltage accuracy |
| Capaciter for voltage multiplier | CL1-CL2 = _____ F | VL4,VL3,VL2,VL1= _____ F |
| Data display mode | <input type="checkbox"/> Blinking display <input type="checkbox"/> Reversing display | <input type="checkbox"/> Not use |
| Frame frequency = _____ Hz | | |

(20) On which condition will you use Watchdog Timer?

- | | | |
|---|---|--|
| <input type="checkbox"/> Use | <input type="checkbox"/> Not use | |
| Count Source | <input type="checkbox"/> CPU clock | <input type="checkbox"/> Low-speed on-chip oscillator clock for the watchdog timer clock |
| Division ratio of the prescaler | <input type="checkbox"/> 1/2 <input type="checkbox"/> 1/16 <input type="checkbox"/> 1/128 | |
| Watchdog timer underflow period set bit | <input type="checkbox"/> 03FFh <input type="checkbox"/> 0FFFh <input type="checkbox"/> 1FFFh <input type="checkbox"/> 3FFFh | |
| Watchdog timer refresh acknowledgement period set bit | <input type="checkbox"/> 25% <input type="checkbox"/> 50% <input type="checkbox"/> 75% <input type="checkbox"/> 100% | |
| Watchdog timer start select bit | <input type="checkbox"/> Watchdog timer automatically starts after reset | |
| | <input type="checkbox"/> Watchdog timer is stopped after reset | |
| Count source protection mode after reset select bit | <input type="checkbox"/> Count source protection mode enabled after reset | |
| | <input type="checkbox"/> Count source protection mode disabled after reset | |

Thank you for your cooperation.