

# R5F72867N100FA

User's Manual: Hardware

SH7285,SH7286 group are high-end single chip microcontroller incorporating an SH-2A core which realized up to 100MHz operation. The SH7286 and SH7285 incorporates large capacity Flash memory (SH7286:1MB, SH7285:768KB). The SH7286 also incorporates register banks. When an interrupt occurs, CPU internal register information is stored in registers at high speed. This makes it possible to improve real-time control performance greatly. The SH7286 also incorporates various peripheral functions suitable for industrial application AC servos, general-purpose inverters and robots, such as a 1 channel USB2.0 Full Speed, CAN(SH7286 only), 5 channel serial interface, a multifunction timer unit, a 12-bit A/D converter, etc. The SH7286realizes high speed operation of 100MHz, and 5V single power supply or 3.3Vsingle power supply operation. (Analog power supply is 5V)

|          |                |               |             |                  |          |
|----------|----------------|---------------|-------------|------------------|----------|
| Overview | Design Support | Documentation | Sample Code | Software & Tools | Ordering |
|----------|----------------|---------------|-------------|------------------|----------|

**Recommended Product**

**R5F72867N100FA#U2**

Production Status: Mass Production

## PARAMETRICS

|  |   |
|--|---|
| Parameters                                     | R5F72867N100FA  |
| <b>Package</b>                                 |   |
| Pin Count                                      | 176   |
| Package Type                                   | LFQFP   |
| <b>Memory</b>                                  |   |
| Program memory                                 | 1024 KB Flash memory  |
| RAM  | 32 KB   |
| Cache Memory Remark                            | ROM cache   |
| <b>CPU (Bit, Clock, DMA, External Bus etc)</b> |   |
| CPU  | SH-2A (32-bit)  |
| Max. Frequency                                 | 100 MHz   |
| PLL  | YES   |
| Power-On Reset                                 | YES   |
| DMA Remarks                                    | DMAC x 8 ch, DTC  |
| External Address/Data Bus                      | YES   |
| External Interrupt Pins                        | 9   |
| I/O Ports                                      | 113   |
| <b>Timers</b>                                  |   |
| 16-bit Timers                                  | 11 ch   |
| Watchdog Timers                                | 1 ch  |
| PWM Output                                     | 24  |
| 3-Phase PWM Output Function                    | YES   |
| <b>Analog</b>                                  |   |
| A/D Converters                                 | 12-bit x 12 ch  |
| D/A Converters                                 | 8-bit x 2 ch  |
| <b>Interfaces</b>                              |   |
| CAN  | 1 ch  |
| USB Ports                                      | 1   |
| USB Peripheral                                 | YES   |
| CSIs   | 5 ch  |
| SPIs   | 1 ch  |
| UARTs  | 5 ch  |
| I2Cs   | 1 ch  |
| Serial Interface Remarks                       | SCI (CSI:4ch/UART:4ch), SCIF (CSI:1ch/UART:1ch), SSU (SPI)      |
| <b>Operating Conditions</b>                    |   |
| Operating Voltage                              | 3 to 5.5 V  |
| Power Supply                                   | VCC=3.0- 5.5V, AVCC=AVREF=4.5-5.5V, VSS=PLLVSS=AVREFVSS=AVSS=0V |
| Operating Temperature                          | -20 to 85 °C (Ambient Temperature)                              |

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Back to Top

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