

R7F7010293AFP

The in-vehicle high-end microcomputer which was the best for body application and had the lineup which can respond to a variety of Systems

OVERVIEW

The RH850/F1L is a product line in Renesas' RH850/F1x series of single chip microcontrollers designed for automotive body applications. The embedded flash memory will range from 256 KB to 2 MB and packages will be covered from small package 48 pin to 176 pin.

Product Status: Product Inquiry

Family: RH850

Series: RH850/F1x

Group: RH850/F1L

PARAMETRICS

Parameters	R7F7010293AFP	
Memory		
Program memory	1024 KB Flash memory	
RAM	128 KB	

CPU (Bit, Clock, DMA, External Bus etc)	
CPU	DUSCOCOV (22 bit)
	RH850G3K (32-bit)
Max. Frequency	80 MHz
Sub-Clock (32.768 kHz)	YES
On-chip Oscillator Freq.	8 MHz, Low Speed: 240 kHz
PLL	YES
Power-On Reset	YES
Low Voltage Detection	YES
DMA Remarks	DMAC x 16ch
External Interrupt Pins	16
I/O Ports	120
Timers	
16-bit Timers	32 ch
32-bit Timers	8 ch
	2 ch
Watchdog Timers	
Other Timers	Timer for OS x 1ch
PWM Output	64
Analog	
A/D Converters	10-bit x 24 ch, 12-bit x 24 ch
Interfaces	
CAN	4 ch
CSIs	2 ch
SPIs	4 ch
UARTS	6 ch
12Cs	1 ch
LIN	12 ch
Serial Interface Remarks	UART: RLIN3, LIN: RLIN3 + RLIN2
Operating Conditions	
Operating Voltage	to 5.5 V
Operating Temperature	-40 to 105 ℃ (Ambient Temperature)
Remarks	
	144 pin 22 bit microcontroller with law
Remarks	144-pin 32-bit microcontroller with low power RH850G3K core suitable for car body control (R850/F1L)

BLOCK DIAGRAM

Interfaces

6 x CAN (480 Msg)

2 x CSI

4 x QCSI

6 x UART/LIN

10 x LIN

1 x I2C

150 x GPIO

Analog

34ch A/D + ext. MUX

24ch A/D

System 16 x DMA Interrupt Controller ext. Memory Int. SPF: MPU, SRP On-Chip debug Main OSC 2 x IntOSC Sub OSC Power on Clear Clock Monitor CRC ICU-S

32-bit CPU RH850 Core 80 MHz 3.0 - 5.5 V (single voltage) -40 to +125°C 176pin QFP Memory 2048KB Program Flash 192KB RAM 1536KB Program Flash 160KB RAM 1024KB Program Flash **128KB RAM** 768KB Flash 96KB RAM 32KB Data Flash **Timers** 1 x 16ch 16-bit Timer 1x OS Timer incl. ENC & TOP 2x WDT 2 x 16ch 16-bit Timer RTC 2 x 4ch 32-bit Timer

72 x 12-bit PWM incl. Diag & Delay