## RENESAS

# R7F7010113AFP

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

System	32-bit CPU		Interfaces
16 x DMA	RH850 Core 80 MHz		6 x CAN (480 Msg)
Interrupt Controller	3.0 - 5.5 V (single voltage) -40 to +125°C		2 x CSI
ext. Memory Int.	176pin QFP		4 x QCSI
SPF: MPU, SRP	Memory		6 x UART/LIN
	2048KB Program Flash	192KB RAM	
On-Chip debug	1536KB Program Flash 160KB RAM		10 x LIN
Main OSC	1536KB Program Flash 160KB RAM		1 x I <sup>2</sup> C
	1024KB Program Flash 128KB RAM		
2 x IntOSC	768KB Flash	96KB RAM	150 x GPIO
Sub OSC			
		32KB Data Flash	Analog
Power on Clear			34ch A/D + ext. MUX
Clock Monitor	Timers		24ch A/D
CRC	1 x 16ch 16-bit Timer incl. ENC & TOP	1x OS Timer	2401 700
ICU-S	2 x 16ch 16-bit Timer	2x WDT	
	2 x 4ch 32-bit Timer	RTC	
	72 x 12-bit PWM incl. Diag & Delay		

## BLOCK DIAGRAM

### PARAMETRICS

Memory	
Program memory	256 KB Flash memory
RAM	32 KB
Data Flash	32 KB
CDU/Dit Clask DMA External Due stal	
CPU (Bit, Clock, DMA, External Bus etc)	
	RH850G3K (32-bit)
Max. Frequency	80 MHz
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	8
I/O Ports	49
Timers	
16-bit Timers	16 ch
32-bit Timers	4 ch
Watchdog Timers	2 ch
Other Timers	Timer for OS x 1ch
PWM Output	24
Analog	
A/D Converters	10-bit x 11 ch, 12-bit x 10 ch
Interfaces	
CAN	3 ch
CSIs	1 ch
SPIs	1 ch
UARTS	2 ch
I2Cs	1 ch
LIN	4 ch
Serial Interface Remarks	UART: RLIN3, LIN: RLIN3 + RLIN2
Operating Conditions	
Operating Voltage	to 5.5 V
Operating Temperature	-40 to 105 °C (Ambient Temperature)
Remarks	
Remarks	64-pin 32-bit microcontroller with low power RH850G3K core suitable for car body control (R850/F1L)

https://www.renesas.com/eu/en/products/microcontrollers-microprocessors/rh850/rh850f1x/rh850f1x/rh850f1/device/R7F7010113AFP.html#overviewInfo/1-10-19