R7F7010283AFP

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
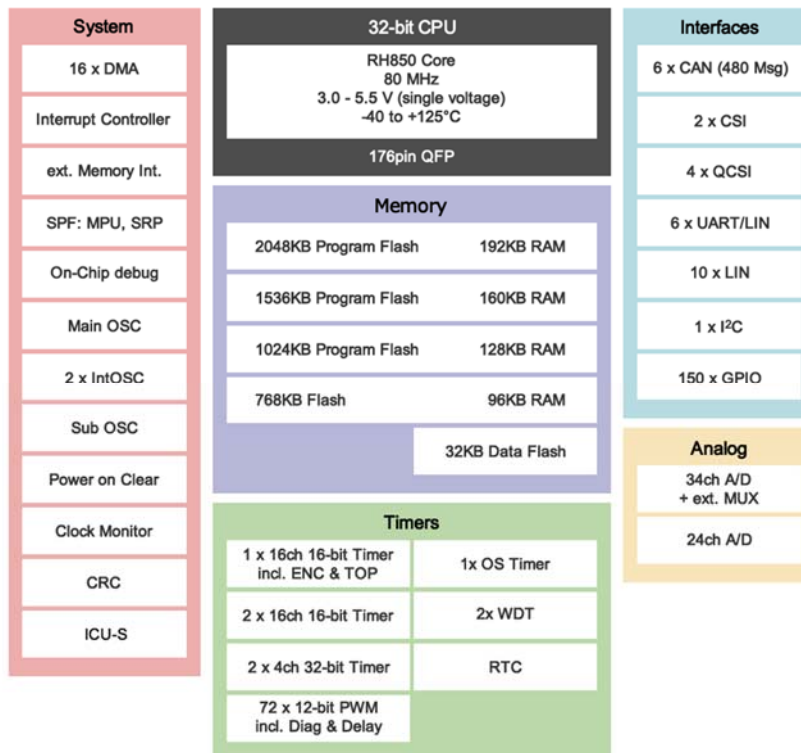
OVERVIEW

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

BLOCK DIAGRAM

System	32-bit CPU	Interfaces
16 x DMA	RH850 Core 80 MHz 3.0 - 5.5 V (single voltage) -40 to +125°C	6 x CAN (480 Msg)
Interrupt Controller		2 x CSI
ext. Memory Int.	176pin QFP	4 x QCSI
SPF: MPU, SRP	Memory	6 x UART/LIN
On-Chip debug	2048KB Program Flash — 192KB RAM	10 x LIN
Main OSC	1536KB Program Flash — 160KB RAM	1 x I²C
2 x IntOSC	1024KB Program Flash — 128KB RAM	150 x GPIO
Sub OSC	768KB Flash — 96KB RAM	
Power on Clear	32KB Data Flash	Analog
Clock Monitor	Timers	34ch A/D + ext. MUX
CRC	1 x 16ch 16-bit Timer incl. ENC & TOP — 1x OS Timer	24ch A/D
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	

PARAMETRICS

Parameters	R7F7010283AFP

Memory	
Program memory	768 KB Flash memory
RAM	96 KB
Data Flash	32 KB

CPU (Bit, Clock, DMA, External Bus etc)	
CPU	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
Watchdog Timers	2 ch
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
I2Cs	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	
Remarks	144-pin 32-bit microcontroller with low power RH850G3K core suitable for car body control (R850/F1L)