致尊敬的顾客

关于产品目录等资料中的旧公司名称

NEC电子公司与株式会社瑞萨科技于2010年4月1日进行业务整合（合并），整合后的新公司暨“瑞萨电子公司”继承两家公司的所有业务。因此，本资料中虽还保留有旧公司名称等标识，但是并不妨碍本资料的有效性，敬请谅解。

瑞萨电子公司网址：http://www.renesas.com

2010年4月1日
瑞萨电子公司

【发行】瑞萨电子公司（http://www.renesas.com）

【业务咨询】http://www.renesas.com/inquiry

2009.01

RENESAS
瑞 萨
Everywhere you imagine.

RENESAS
R8C

R8C
EASY LIST

THE
SIMPLICITY
MIGHTY
AVAILABILITY
RELIABILITY
TINY
CHOICE

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瑞萨R8C RU-Stick
— Promotional Study Kit

Renesas USB Stick(简称RU-Stick或易优Stick)是一款简易的、超小型的、采用串口调试软件实现在线调试功能的学习套件。面向R8C族的RU-Stick目前可支持R8C/2D之前的产品，后续支持产品将会不断更新。套件包括RU-Stick调试器、R8C/1B演示板、USB延长线和配套CD。

配合瑞萨集成开发环境HEW及烧写软件FlashSta，RU-Stick可对瑞萨MCU进行在线调试与Flash编程，而使用RU-mini CPU板作为辅助工具，可以让用户更加轻松的开始瑞萨MCU及其开发环境的学习、评价之旅。

特　点

方　便
- 小型化(U盘大小)
- 标准接口，可向目标板提供5V/400mA的电源

快　捷
- 配套CD中包含所需软件，使用指南和演示源程序
- 通过配套使用手册，能让您在10分钟内学会调试

易　用
- 在线擦除/下载程序
- 源代码调试
- 支持单步运行、运行到光标等功能
- 支持动态设置2~8个断点
  (由CPU品种决定)
- 支持监视窗口动态刷新等

实物图

全套RU-Stick套件

E8a内部调试仿真器(R0E00008AKCE00)

- 低成本On Chip调试仿真工具
- 可应用于M16C、H8、R8C和740族

Flash开发工具包-FDT (R0C00000FDW04R)

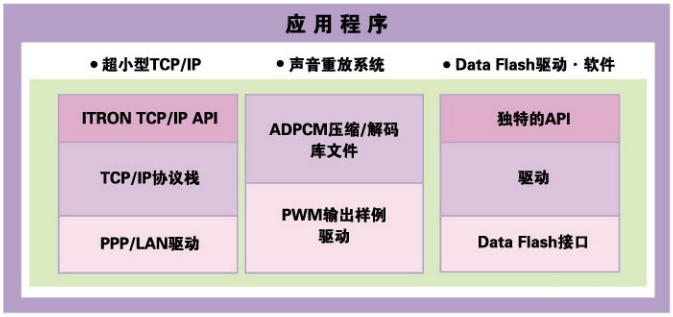
- Flash编程
- 易于使用的图形用户界面
- 瑞萨网站内资源免费下载

High Performance Embedded Workshop (综合开发环境)

- 基于GUI的集成开发环境
- 易于使用的工具组
- 行业标准用户界面
- 瑞萨网站内资源免费下载

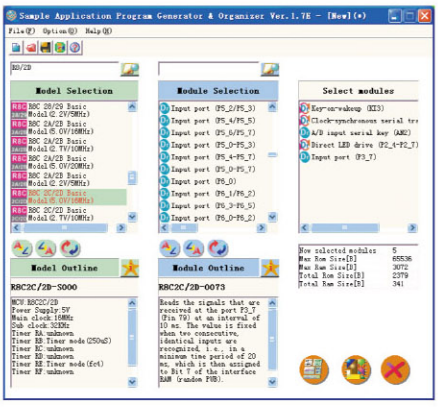
中间件支持

瑞萨为R8C免费提供超小型TCP/IP、声音重放、Data Flash驱动中间件，为用户节省了宝贵的开发时间。



SANGO(应用示例程序生成和管理系统)

SANGO是一款免费的编程辅助实用软件，提供了大量用于R8C/11、13、1A、1B、24、25、 26、27、28、29、2A、2B、2C、2D、35A等MCU的源程序和使用手册。

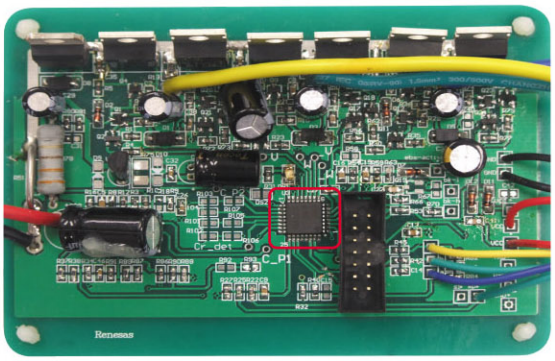


R8C族 解决方案

电动车应用–R8C/2K

特点:

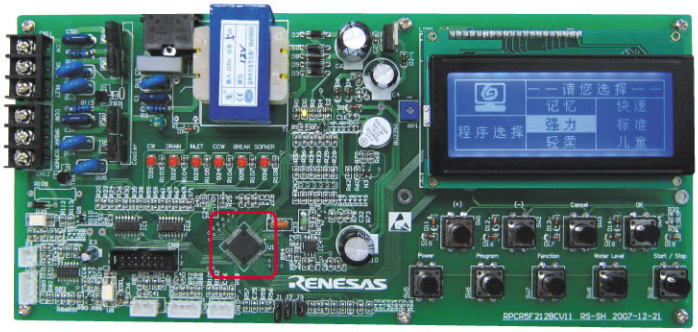
– 电机速度控制功能
– 刹车功能
  换相转矩控制功能
– MOSFET 保护功能
– 电压保护功能
– 防盗警报功能



洗衣机应用–R8C/2A,2B

特点:

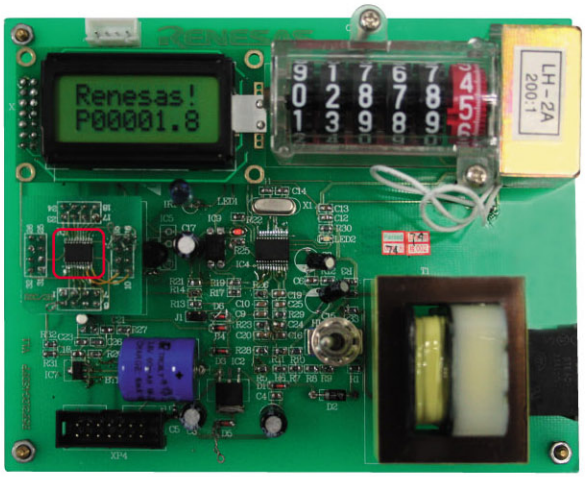
– 192 x 64点阵液晶显示
– 错误检测和报警
– 自动断电功能
– 容量/布质检测
– 水位检测
– 不平衡检测和修正
– 桶干燥功能
– 预约功能
– 掉电记忆功能



电能表应用–R8C/2G

特点:

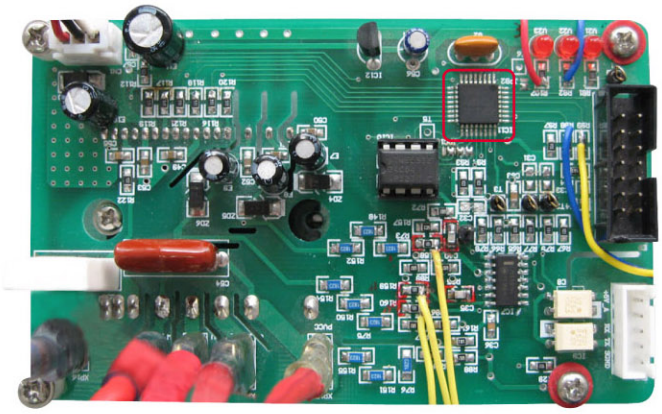
– 基本计量　– 串行通信　– 数据采集
– 红外收发　– 温度调节　– 液晶显示
– 掉电检测　– 实时时钟　– 节电



家用变频器–R8C/2K

特点:

– 1HP,1.5HP直流无刷型压缩机接入
– 控制转速范围1000rpm~7200rpm
– 瞬间过电流保护
– 电动机失步检测
– 直流母线电压检测
– 低转速负载波动转矩补偿



更多信息，请联系您附近的销售办事处。

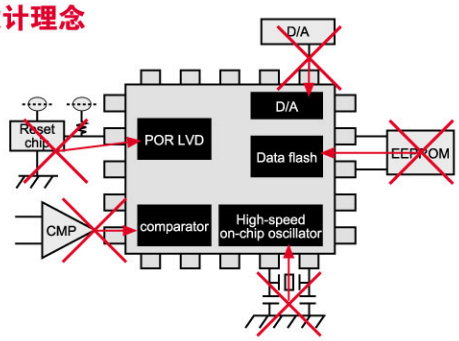
R8C 简介

R8C族是具有高ROM效率、低噪音、低功耗和高处理性能的16位CISC MCU。由于拥有丰富的定时器和多种串行通讯等内置外围功能，R8C族适用于多种应用领域。

可提供的产品集成了无需谐振器的高速内部振荡器、减少外置元件的上电复位电路、低电压检测电路、支持系统安全的振荡停止检测电路，有助于实现低成本和系统安全。

提供全闪存版产品扩展系列和低成本开发工具，从而为用户缩短了开发时间、降低了系统总成本。R8C族与M16C族相兼容，可共享软件资源与开发工具。

R8C 设计理念



R8C 独特的卖点(USP)

广泛产品线

- 130种以上的产品
- ROM/RAM容量：4KB–128KB/256B–10KB
- 引脚可扩展性：提供20~80引脚封装产品

安全设计

- 内置振荡器停止检测电路
- 内置高可靠性看门狗定时器
- 程序区保护电路系统
- 高可靠性闪存

高功能性

- 宽范围工作电压：1.8V–5.5V
- 高速片内振荡器，精度高达 ± 1%
- 内部数据传送控制器(DTC)–R8C/3xA
- 具有后台操作(BGO)的Data Flash– R8C/3xA
- POR/LVD、定时器、串行通信、ADC、DAC等

易于使用

- 片上公共外围模块
- 优化C语言的高效ROM
- 中间件和RTOS支持
- 低成本编程开发环境和瑞萨学习工具包

适合各种要求的瑞萨微控制器/微处理器

RENESAS SuperH	最高频率达到600MHz
RENESAS RX	高代码效率、高性能(MIPS/MHz)架构
RENESAS H8SX	强劲的32位、单周期执行指令的CISC引擎
RENESAS M16C Platform	具有最为广泛的代码及引脚兼容性的开发平台
RENESAS R8C	16位的性能，8位的应用

资源和支持

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RTSHCMCCA0002–0100 Rev.1.00

20引脚 | 28引脚 | 32引脚 | 48引脚 | 52引脚 | 64引脚 | 80引脚

128KB / 96KB / 64KB / 48KB / 32KB / 24KB / 16KB / 12KB / 8KB / 4KB / 2KB

RENESAS R8C

选型指南

5 简单步骤 快速入门

STEP 1 从列中选择您所要求的引脚数

STEP 2 在行中选择您所要求的ROM容量

STEP 3 行、列交集处便是符合的器件型号 (参阅表1与器件图示)

STEP 4 外围功能与封装 (请参阅表2和表3)

STEP 5 访问瑞萨网站 www.cn.renesas.com

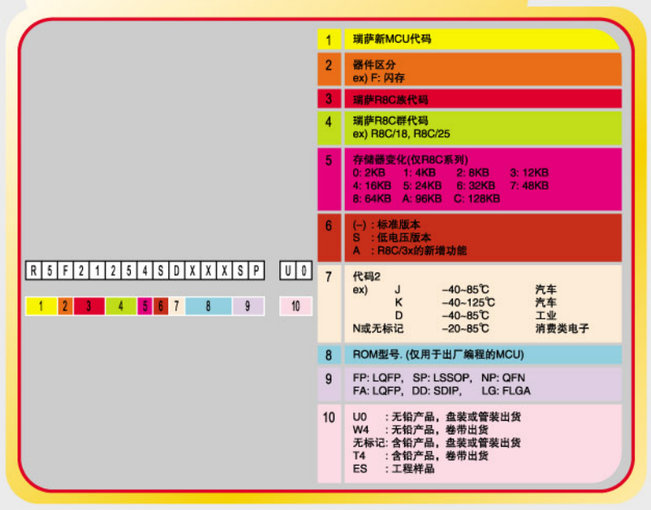
引脚数	128KB	96KB	64KB	48KB	32KB	24KB	16KB	12KB	8KB	4KB	2KB
20引脚	R8C/20 6KB RAM R5F2120Cxxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 5KB RAM R5F2120Axxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 3KB RAM R5F21208xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 2.5KB RAM R5F21207xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 2KB RAM R5F21206xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 2KB RAM R5F21205xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 1.5KB RAM R5F21204xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 1KB RAM R5F21203xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 768B RAM R5F21202xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 512B RAM R5F21201xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/20 384B RAM R5F21200xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK
28引脚	R8C/22 6KB RAM R5F2122Cxxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/22 5KB RAM R5F2122Axxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/22 3KB RAM R5F21228xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK	R8C/22 2.5KB RAM R5F21227xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK	R8C/22 2KB RAM R5F21226xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK	R8C/22 2KB RAM R5F21225xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK	R8C/22 1.5KB RAM R5F21224xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK	R8C/22 1KB RAM R5F21223xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK	R8C/22 768B RAM R5F21222xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK	R8C/22 512B RAM R5F21221xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK	R8C/22 384B RAM R5F21220xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 IJK
32引脚	R8C/21 6KB RAM R5F2121Cxxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 5KB RAM R5F2121Axxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 3KB RAM R5F21218xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 2.5KB RAM R5F21217xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 2KB RAM R5F21216xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 2KB RAM R5F21215xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 1.5KB RAM R5F21214xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 1KB RAM R5F21213xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 768B RAM R5F21212xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 512B RAM R5F21211xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK	R8C/21 384B RAM R5F21210xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Cx1 Lx1 O R Vx2 JK
48引脚	R8C/23 6KB RAM R5F2123Cxxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 JK	R8C/23 5KB RAM R5F2123Axxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 JK	R8C/23 3KB RAM R5F21238xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 IJK	R8C/23 2.5KB RAM R5F21237xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 IJK	R8C/23 2KB RAM R5F21236xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 IJK	R8C/23 1.5KB RAM R5F21235xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 IJK	R8C/23 1KB RAM R5F21234xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 IJK	R8C/23 768B RAM R5F21233xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 IJK	R8C/23 512B RAM R5F21232xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 IJK	R8C/23 384B RAM R5F21231xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 Cx1 Lx1 8x3 16x2 O R Vx2 IJK
52引脚	R8C/35A 10KB RAM R5F2135Cxxxx 1K x 4 DataFlash 1.8V ~ 5.5V 47 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x3 Lx1 DTC O R Vx3 IC	R8C/35A 8KB RAM R5F2135Axxxx 1K x 4 DataFlash 1.8V ~ 5.5V 47 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x3 Lx1 DTC O R Vx3 IC	R8C/35A 6KB RAM R5F21358xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 47 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x3 Lx1 DTC O R Vx3 IC	R8C/35A 4KB RAM R5F21357xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 47 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x3 Lx1 DTC O R Vx3 IC	R8C/35A 2.5KB RAM R5F21356xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 47 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x3 Lx1 DTC O R Vx3 IC	R8C/35A 2KB RAM R5F21355xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 47 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x3 Lx1 DTC O R Vx3 IC	R8C/35A 1.5KB RAM R5F21354xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 47 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x3 Lx1 DTC O R Vx3 IC			
64引脚	R8C/2B 7.5KB RAM R5F212BCxxxx 1K x 2 DataFlash 2.2V ~ 5.5V 55 GPIOs Ax12 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2B 7KB RAM R5F212BAxxxx 1K x 2 DataFlash 2.2V ~ 5.5V 55 GPIOs Ax12 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2B 3KB RAM R5F212B8xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 55 GPIOs Ax12 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2B 2.5KB RAM R5F212B7xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 55 GPIOs Ax12 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC							
80引脚	R8C/2D 7.5KB RAM R5F212DCxxxx 1K x 2 DataFlash 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2D 7KB RAM R5F212DAxxxx 1K x 2 DataFlash 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2D 3KB RAM R5F212D8xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2D 2.5KB RAM R5F212D7xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC							

引脚数	128KB	96KB	64KB	48KB	32KB	24KB	16KB	12KB	8KB	4KB	2KB
20引脚	R8C/2C 7.5KB RAM R5F212CCxxxx 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2C 7KB RAM R5F212CAxxxx 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2C 3KB RAM R5F212C8xxxx 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2C 2.5KB RAM R5F212C7xxxx 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/33A 2.5KB RAM R5F21336xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 27 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x1 Lx1 DTC O R Vx3 IC	R8C/33A 2KB RAM R5F21335xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 27 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x1 Lx1 DTC O R Vx3 IC	R8C/33A 1.5KB RAM R5F21334xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 27 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x1 Lx1 DTC O R Vx3 IC	R8C/33A 1KB RAM R5F21332xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 27 GPIOs Ax12 Dx2 Px4 Ux3 Sx1 8x3 16x1 Lx1 DTC O R Vx3 IC	R8C/33A 512B RAM R5F21331xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 27 GPIOs Ax12 Dx2 Px4 Ux3 SX1 8x3 16x1 Lx1 DTC O R VX3 IC	
28引脚	R8C/2C 2.5KB RAM R5F212C7xxxx 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2C 2KB RAM R5F212C6xxxx 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2C 1.5KB RAM R5F212C5xxxx 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2C 1KB RAM R5F212C4xxxx 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2G 1KB RAM R5F212G6xxxx 2.2V ~ 5.5V 28 GPIOs Px2 Ux2 8x3 16x1 Lx1 O R Vx3 IC	R8C/2G 1KB RAM R5F212G5xxxx 2.2V ~ 5.5V 28 GPIOs Px2 Ux2 8x3 16x1 Lx1 O R Vx3 IC	R8C/2G 512B RAM R5F212G4xxxx 2.2V ~ 5.5V 28 GPIOs Px2 Ux2 8x3 16x1 Lx1 O R Vx3 IC	R8C/2K 1.5KB RAM R5F212K4xxxx 2.2V ~ 5.5V 25 GPIOs Ax9 Ux2 8x2 16x3 Lx1 O R Vx3 IC	R8C/2K 1KB RAM R5F212K2xxxx 2.2V ~ 5.5V 25 GPIOs Ax9 Ux2 8x2 16x3 Lx1 O R Vx3 IC		
32引脚	R8C/2F 1KB RAM R5F212F4xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 25 GPIOs Ax12 Dx2 Px2 Ux1 8x3 16x1 Lx1 O R Vx2 IC	R8C/2F 512B RAM R5F212F2xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 25 GPIOs Ax12 Dx2 Px2 Ux1 8x3 16x1 Lx1 O R Vx2 IC	R8C/2E 1KB RAM R5F212E4xxxx 2.7V ~ 5.5V 25 GPIOs Ax12 Dx2 Px2 Ux1 8x3 16x1 Lx1 O R Vx2 IC	R8C/2E 512B RAM R5F212E2xxxx 2.7V ~ 5.5V 25 GPIOs Ax12 Dx2 Px4 Ux1 8x3 16x1 Lx1 O R Vx2 IC	R8C/2L 1.5KB RAM R5F212L4xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 25 GPIOs Ax9 Ux2 8x2 16x3 Lx1 O R Vx3 IC	R8C/2L 1KB RAM R5F212L2xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 25 GPIOs Ax9 Ux2 8x2 16x3 Lx1 O R Vx3 IC	R8C/2L 512B RAM R5F212L1xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 25 GPIOs Ax9 Ux2 8x2 16x3 Lx1 O R Vx3 IC	R8C/2J 384B RAM R5F212J1xxxx 2.2V ~ 5.5V 12 GPIOs Px2 Ux1 8x2 16x1 Lx1 O R Vx3 IC	R8C/2J 256B RAM R5F212J0xxxx 2.2V ~ 5.5V 12 GPIOs Px2 Ux1 8x2 16x1 Lx1 O R Vx3 IC		
48引脚	R8C/2K 1.5KB RAM R5F212K4xxxx 2.2V ~ 5.5V 25 GPIOs Ax9 Ux2 8x2 16x3 Lx1 O R Vx3 IC	R8C/2K 1KB RAM R5F212K2xxxx 2.2V ~ 5.5V 25 GPIOs Ax9 Ux2 8x2 16x3 Lx1 O R Vx3 IC	R8C/2G 512B RAM R5F212G4xxxx 2.2V ~ 5.5V 28 GPIOs Px2 Ux2 8x3 16x1 Lx1 O R Vx3 IC	R8C/27 1KB RAM R5F21274xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 25 GPIOs Ax12 Ux2 Sx1 8x3 16x1 Lx1 O R Vx3 ICJK	R8C/26 1KB RAM R5F21264xxxx 2.2V ~ 5.5V 25 GPIOs Ax12 Ux2 Sx1 8x3 16x1 Lx1 O R Vx3 ICJK						
52引脚											
64引脚	R8C/2A 7.5KB RAM R5F212ACxxxx 2.2V ~ 5.5V 55 GPIOs Ax12 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2A 7KB RAM R5F212AAxxxx 2.2V ~ 5.5V 55 GPIOs Ax12 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2A 3KB RAM R5F212A8xxxx 2.2V ~ 5.5V 55 GPIOs Ax12 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2A 2.5KB RAM R5F212A7xxxx 2.2V ~ 5.5V 55 GPIOs Ax12 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/25 2KB RAM R5F21256SNLG 1K x 2 DataFlash 2.2V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Lx1 O R Vx3 C	R8C/24 2KB RAM R5F21246SNLG 2.2V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Lx1 O R Vx3 C					
80引脚	R8C/2D 3KB RAM R5F212D8xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC	R8C/2D 2.5KB RAM R5F212D7xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 71 GPIOs Ax20 Dx2 Ux3 Sx1 8x3 16x4 Lx1 O R Vx3 IC									

引脚数	128KB	96KB	64KB	48KB	32KB	24KB	16KB	12KB	8KB	4KB	2KB
20引脚							R8C/32A 1.5KB RAM R5F21324xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 15 GPIOs Ax4 Ux2 Sx1 Px4 8x3 16x1 Lx1 DTC O R Vx3 IC	R8C/32A 1KB RAM R5F21322xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 15 GPIOs Ax4 Ux2 Sx1 Px4 8x3 16x1 Lx1 DTC O R Vx3 IC	R8C/32A 512B RAM R5F21321xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 15 GPIOs Ax4 Ux2 Sx1 Px4 8x3 16x1 Lx1 DTC O R Vx3 IC		
28引脚							R8C/29 1KB RAM R5F21294xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x3 16x1 Lx1 O R Vx3 ICJK	R8C/28 1KB RAM R5F21284xxxx 2.2V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x3 16x1 Lx1 O R Vx3 ICJK	R8C/29 512B RAM R5F21292xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x3 16x1 Lx1 O R Vx3 IC	R8C/28 512B RAM R5F21282xxxx 2.2V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x3 16x1 Lx1 O R Vx3 IC		
32引脚							R8C/1B 1KB RAM R5F211B4xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 IC	R8C/1A 1KB RAM R5F211A4xxxx 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 IC	R8C/19 1KB RAM R5F21194xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 IC	R8C/18 1KB RAM R5F21184xxxx 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 IC	R8C/1B 768B RAM R5F211B3xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 IC	R8C/1A 768B RAM R5F211A3xxxx 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 IC	R8C/19 768B RAM R5F21193xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 IC	R8C/18 768B RAM R5F21183xxxx 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 IC			
48引脚							R8C/1B 1KB RAM R5F211B4NP 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 C	R8C/1A 1KB RAM R5F211A4NP 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 C	R8C/19 1KB RAM R5F21194NP 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 C	R8C/18 1KB RAM R5F21184NP 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 C	R8C/1B 768B RAM R5F211B3NP 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 C	R8C/1A 768B RAM R5F211A3NP 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 C	R8C/19 768B RAM R5F21193NP 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 C	R8C/18 768B RAM R5F21183NP 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 C			
52引脚											
64引脚							R8C/25 1KB RAM R5F21254xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Lx1 O R Vx3 IC	R8C/24 1KB RAM R5F21244xxxx 2.2V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Lx1 O R Vx3 IC	R8C/25 1KB RAM R5F21254SNLG 1K x 2 DataFlash 2.2V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Lx1 O R Vx3 C	R8C/24 1KB RAM R5F21244SNLG 2.2V ~ 5.5V 41 GPIOs Ax12 Ux2 Sx1 8x3 16x2 Lx1 O R Vx3 C					
80引脚											

引脚数	128KB	96KB	64KB	48KB	32KB	24KB	16KB	12KB	8KB	4KB	2KB
20引脚									R8C/1B 512B RAM R5F211B2xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 IC	R8C/1B 384B RAM R5F211B1xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Ax2 Ux2 Sx1 8x2 16x1 O R Vx2 IC	R8C/32A 512B RAM R5F21321xxxx 1K x 4 DataFlash 1.8V ~ 5.5V 15 GPIOs Ax4 Ux2 Sx1 Px4 8x3 16x1 Lx1 DTC O R Vx3 IC		
28引脚									R8C/1A 512B RAM R5F211A2xxxx 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 IC	R8C/1A 384B RAM R5F211A1xxxx 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 IC	R8C/2H 256B RAM R5F212H1xxxx 2.2V ~ 5.5V 15 GPIOs Px2 Ux2 8x3 16x1 Lx1 O R Vx3 IC		
32引脚									R8C/19 512B RAM R5F21192xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 IC	R8C/19 384B RAM R5F21191xxxx 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 IC	R8C/2J 384B RAM R5F212J1xxxx 2.2V ~ 5.5V 12 GPIOs Px2 Ux1 8x2 16x1 Lx1 O R Vx3 IC		
48引脚									R8C/18 512B RAM R5F21182xxxx 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 IC	R8C/18 384B RAM R5F21181xxxx 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 IC	R8C/2J 256B RAM R5F212J0xxxx 2.2V ~ 5.5V 12 GPIOs Px2 Ux1 8x2 16x1 Lx1 O R Vx3 IC		
52引脚											
64引脚									R8C/1B 512B RAM R5F211B2NP 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 C	R8C/1A 512B RAM R5F211A2NP 2.7V ~ 5.5V 13 GPIOs Ax4 Ux2 Sx1 8x2 16x1 O R Vx2 C	R8C/27 512B RAM R5F21272xxxx 1K x 2 DataFlash 2.2V ~ 5.5V 25 GPIOs Ax12 Ux2 Sx1 8x3 16x1 Lx1 O R Vx3 IC		
80引脚									R8C/19 512B RAM R5F21192NP 1K x 2 DataFlash 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 C	R8C/18 512B RAM R5F21182NP 2.7V ~ 5.5V 13 GPIOs Px4 Ux2 8x2 16x1 O R Vx2 C	R8C/26 512B RAM R5F21262xxxx 2.2V ~ 5.5V 25 GPIOs Ax12 Ux2 Sx1 8x3 16x1 Lx1 O R Vx3 IC		

表1 R8C器件型号说明



器件图示

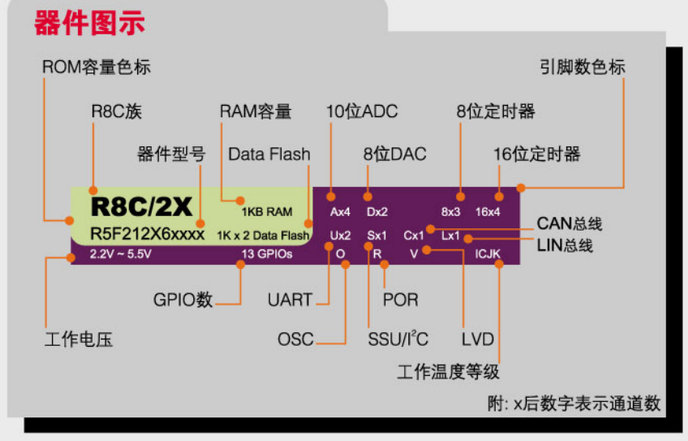


表2 外围功能缩写说明

描述	图示
特性	
10位ADC (模数转换器)	A
8位DAC (数模转换器)	D
比较电路	P
UART (通用异步接收发送器)	U
CAN (控制器局域网)	C
LIN (本地互联网)	L
I²C/SSU (串行同步单元)	S
POR (上电复位)	R
LVD (低电压检测)	V
OSC (片内振荡器)	O
DTC (数据传送控制器)	DTC
8位定时器	8
16位定时器	16
温度等级	
汽车级J规格 (–40~85℃)	J
汽车级K规格 (–40~125℃)	K
工业级D规格 (–40~85℃)	I
消费类电子级N (–20~85℃)	C

表3 R8C封装规格

产品群	封装	封装后缀
R8C/18		
R8C/19	20引脚LSSOP (6.5mm x 4.4mm, 0.65mm间距)	SP
R8C/1A	20引脚SDIP (19mm x 6.3mm, 1.778mm间距)	DD
R8C/1B	28引脚QFN (5mm x 5mm, 0.5mm间距)	NP
R8C/2J		
R8C/2H		
R8C/28		
R8C/29		
R8C/32A	20引脚LSSOP (6.5mm x 4.4mm, 0.65mm间距)	SP
R8C/26		
R8C/27		
R8C/2E		
R8C/2F		
R8C/2G		
R8C/2K		
R8C/2L		
R8C/33A	32引脚LQFP (7mm x 7mm, 0.8mm间距)	FP
R8C/20		
R8C/21		
R8C/22		
R8C/23	48引脚LQFP (7mm x 7mm, 0.5mm间距)	FP
R8C/24	52引脚LQFP (10mm x 10mm, 0.65mm间距)	FP
R8C/25	64引脚FLGA (6mm x 6mm, 0.65mm间距)	LG
R8C/35A	52引脚LQFP (10mm x 10mm, 0.65mm间距)	FP
	64引脚LQFP (10mm x 10mm, 0.5mm间距)	FP
R8C/2A	64引脚LQFP (14mm x 14mm, 0.8mm间距)	FL
R8C/2B	64引脚FLGA (6mm x 6mm, 0.65mm间距)	LG (仅用于消费电子级)
R8C/2C		
R8C/2D	80引脚LQFP (12mm x 12mm, 0.5mm间距)	FP