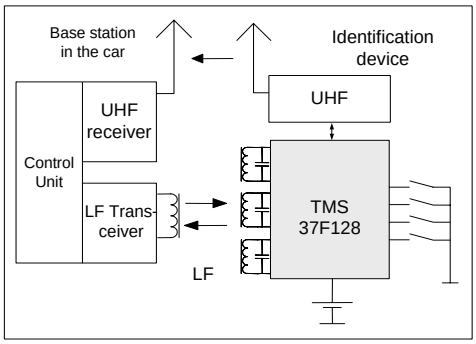
Controller Remote Access Identification Device IC TMS37C128 / TMS37F128

The Controller Remote Access Identification Device (CRAID) IC combines 4 functions in one entity:

- Low-power 16bit microcontroller MSP430
- 3D Analog Frontend
- Proven TI DST+ transponder
- Sophisticated power management.

With these 4 functions it is ideally suited for state-of-the-art Passive Entry applications. The low-power microcontroller MSP430 offers a 16bit RISC architecture, 8kByte ROM program memory and 13 I/O ports. The 3D Analog Frontend is an improved version of the TMS37122/127 device offering high sensitivity to receive LF signals between 120-140kHz.



The embedded DST+ transponder offers a high level of security through its encryption, mutual authentication and after-theft diagnosis features; it operates without battery. The power management features in addition to battery charge/check a battery backup function which allows to operate all functions (including the microcontroller) with low or even no battery; the energy is generated from the LF field.
The CRAID is available as flash (TMS37F128) and ROM (TMS37C128) version.

Specifications:

Part Number	**TMS 37F128 / TMS 37C128**
Features	16bit RISC ultra low-power microcontroller MSP430
	3D Analog Frontend with LF both way signaling, RSSI measurement
	Immobilizer compatible to DST+ (E9WK)
	Battery back-up, battery Check, battery charge function
Supply Voltage	1.8 … 3.6 V
Current consumption	Active: 320 µA (typ. with Vcc=3V/ f_{osc}=1MHz); Stand-by (3ant): 3.1 µA
3D Analog Frontend	
Sensitivity	3.75 mVpp (typ.)
Operating Frequency	120 - 140 kHz
Transponder	
Operating Frequency	134.2 kHz
Security	TI Challenge/Response, Mutual Authentication, Secure Issuer Access Mode
EEPROM Memory	91Byte (lockable) for User data, 64Byte for Encryption Keys, serial#, configuration
Microcontroller	
Memory	8kByte Flash/ROM, 256Byte RAM
I/O ports	14
Analog Digital Converter	8 channel, 10Bit, on chip reference, on chip temperature sensor
Other	On Chip Oscillator (accuracy +/- 4%)
Operating Temperature	-40 to +85°C
Package	44 Pin TSSOP DBT

For more information, contact the sales office or distributor nearest you. This contact information can be found on our web site at: **http://www.ti-rfid.com**