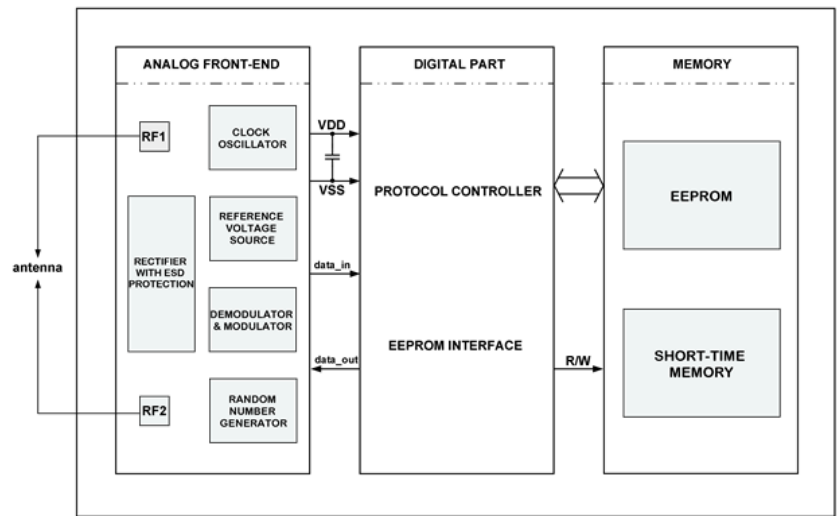


UHF RFID tag IP with 512bit EEPROM and -19dBm sensitivity

OVERVIEW

180SMIC_RFID_EPCGen2_01 IP is intended for use in passive UHF transponder applications. IP derives its operating power from an RF electromagnetic field generated by a reader, which is received and rectified by the IP. The IP tag sends the answer back to the reader using a backscatter modulation technique. The IP provides a fast and flexible anti-collision protocol based on internal random number generator according to EPC standard. IP supports all EPC C1G2 mandatory commands.



180SMIC_RFID_EPCGen2_01 has a 512-bit EEPROM organized in 4 banks.

IP technology: SMIC EEPROM CMOS 180 nm.

IP status: silicon proven.

Silicon area: 0.265 mm²

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Operating temperature	T _A	-	-40	25	+65	°C
Operating carrier frequency	F _c	-	860	-	960	MHz
RC oscillator frequency	F _{osc}	-	1.8	2.0	2.5	MHz
EEPROM retention time	t _{ret}	-	-	10	-	year
EEPROM write endurance	N _{end}	-	-	100k	-	cycle
Read sensitivity	P _{rd_min}	T _A = 25 °C	-	-19	-	dBm
Write sensitivity	P _{wr_min}	T _A = 25 °C	-	-16	-	dBm
Impedance	Z	F _c = 915 MHz	-	13-j260	-	Ω
EEPROM memory size	-	-	-	512	-	bit