

RF Transmitter Module  
AEC-Q100 compliant  
**SR3225SAA**

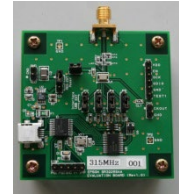
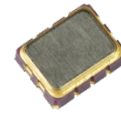


Product Number  
**SR3225SAA: X1G00479xxxx00**

SR3225SAA is a wireless transmitter module for UHF range. Crystal resonator, oscillator, PLL and Power Amp are integrated in 3.2 mm x 2.5 mm ceramic package. The wireless transmission function can be configured by connect to the external control devices. It is suitable for small wireless transmitter. The evaluation kit is available.

Application

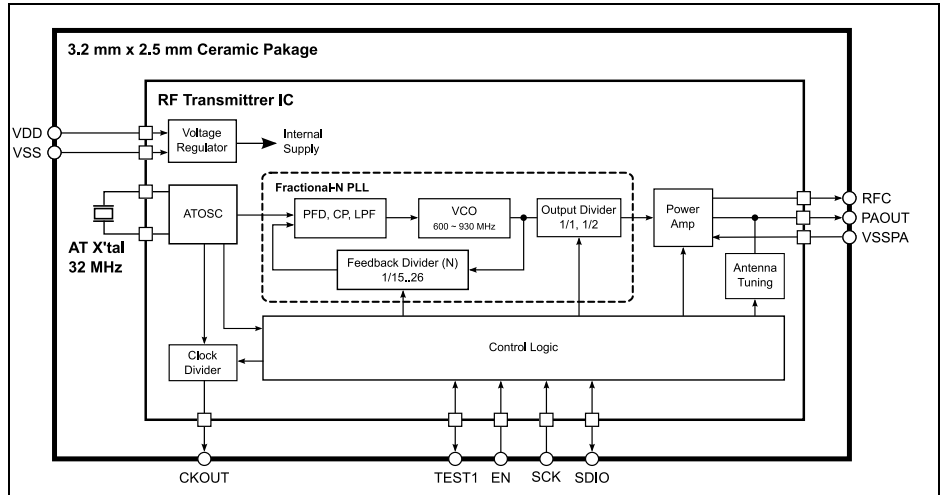
- Remote Keyless Entry, Passive Entry
- Short range radio data transmitter
- Garage door opener
- Transmitter for RFID tag



Overview

- Carrier frequency bands:  
300 MHz ~ 465 MHz (0.25 kHz Step),  
600 MHz ~ 930 MHz (0.49 kHz Step)
- $\Delta\Sigma$  fractional-N based PLL
- Programmable Power Amp output power:  
-15 ~ 11 dBm, 128 steps
- Modulation types: ASK/OOK/FSK with Soft-ASK and/or Soft FSK shaping
- 3-wire/4-wire SPI interface
- SFR (Special Function Register)
- Embedded 32 MHz crystal resonator and oscillation circuit
- Programmable clock output via CKOUT
- Programmable voltage threshold of Under Voltage Detection: 4 steps (1.8 V ~ 2.4 V)
- Fail-Safe mechanism (PLL Loss of Lock, VCO auto-calibration error, Under Voltage Detection)

Block diagram

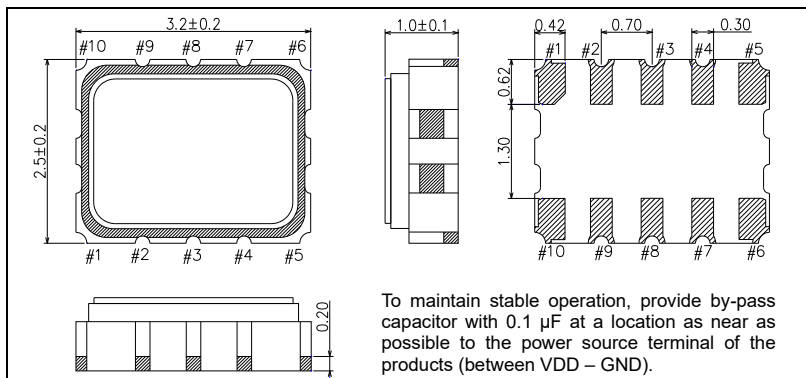


Specification (characteristics)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	VDD	-	1.8	3.0	3.6	V
Operation temperature range	Ta	-	-40	-	+85	°C
Storage temperature range	Tstg	-	-40	-	+125	°C
Supply current Powerdown Mode	I <sub>DDPD</sub>	VDD = 3.0 V, Ta = +25 °C	-	20	100	nA
Supply current Transmitter-Active Mode	I <sub>DDTMA</sub>	F <sub>TX</sub> = 315 MHz, P <sub>out</sub> = 5 dBm,	-	10.0	11.0	mA
		F <sub>TX</sub> = 315 MHz, P <sub>out</sub> = 8 dBm,	-	12.7	13.7	
		F <sub>TX</sub> = 315 MHz, P <sub>out</sub> = 10 dBm,	-	15.0	16.0	
Carrier frequency bands	F <sub>TX</sub>	-	300	-	465	MHz
			600	-	930	
ASK Bit rate	R <sub>ASK</sub>	NRZ	-	-	100	kbps
FSK Bit rate	R <sub>FSK</sub>	NRZ	-	-	50	kbps
Crystal frequency tolerance	F <sub>TOL</sub>	Ta = +25 °C, without aging	-2	-	2	ppm
Crystal temperature variation	F <sub>TC</sub>	-40 °C ~ +85 °C	-20	-	20	ppm
Nominal output power	P <sub>OUT</sub>	Ta = +25 °C, VDD = 3.0 V, F <sub>TX</sub> = 315 MHz, HPWR = 1, AM* = 0x3F	10	11	12	dBm
		Ta = +25 °C, VDD = 3.0 V, F <sub>TX</sub> = 315 MHz, HPWR = 0, AM* = 0x01	-16	-15	-14	

External dimensions

(Unit: mm)



Pin descriptions

Pin No.	Pin Name	Function
1	TEST1	Test, Transmission data input or SPI interface data output
2	EN	Enable inp or SPI interface chip select
3	SCK	SPI interface clock input
4	SDIO	SPI data input / output or Transmission data input
5	CKOUT	Clock output
6	VSSPA	GND for Power Amp
7	PAOUT	Power Amp output
8	RFC	RF choke coil connect pin
9	VDD	Positive power supply
10	VSS	GND

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All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification.

ISO 14000 is an international standard for environmental management that was established by the International Standards Organization in 1996 against the background of growing concern regarding global warming, destruction of the ozone layer, and global deforestation.

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IATF 16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

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	► Pb free.
	► Complies with EU RoHS directive. *About the products without the Pb-free mark. Contains Pb in products exempted by EU RoHS directive. (Contains Pb in sealing glass, high melting temperature type solder or other.)
	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
	► Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc ).

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