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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Description

The Si21682D integrates two separate high-performance digital demodulators for the DVB-T2/T and DVB-C standards into a single compact package. Leveraging Silicon Labs' proven digital demodulation architecture, the Si21682D achieves excellent reception performance for each media while significantly minimizing front-end design complexity, cost, and power dissipation. Connecting the Si21682D to a dual terrestrial/cable TV tuner results in a high-performance and cost optimized TV front-end solution.

Silicon Labs' internally-developed DVB-T2 (including T2-Lite) demodulators support all modes specified by the DVB-T2 standard (V1.4.1). Main features of the DVB-T2 mode are, SISO and MISO support, FEF management, fully autonomous signal acquisition including automatic L1 signaling parsing support for all pilot patterns, and DVB-T2/T auto-detection.

The DVB-T and DVB-C, including ITU-T J.83 annex B, demodulators are enhanced versions of proven and broadly used Si2164/67/68/69 Silicon Labs devices.

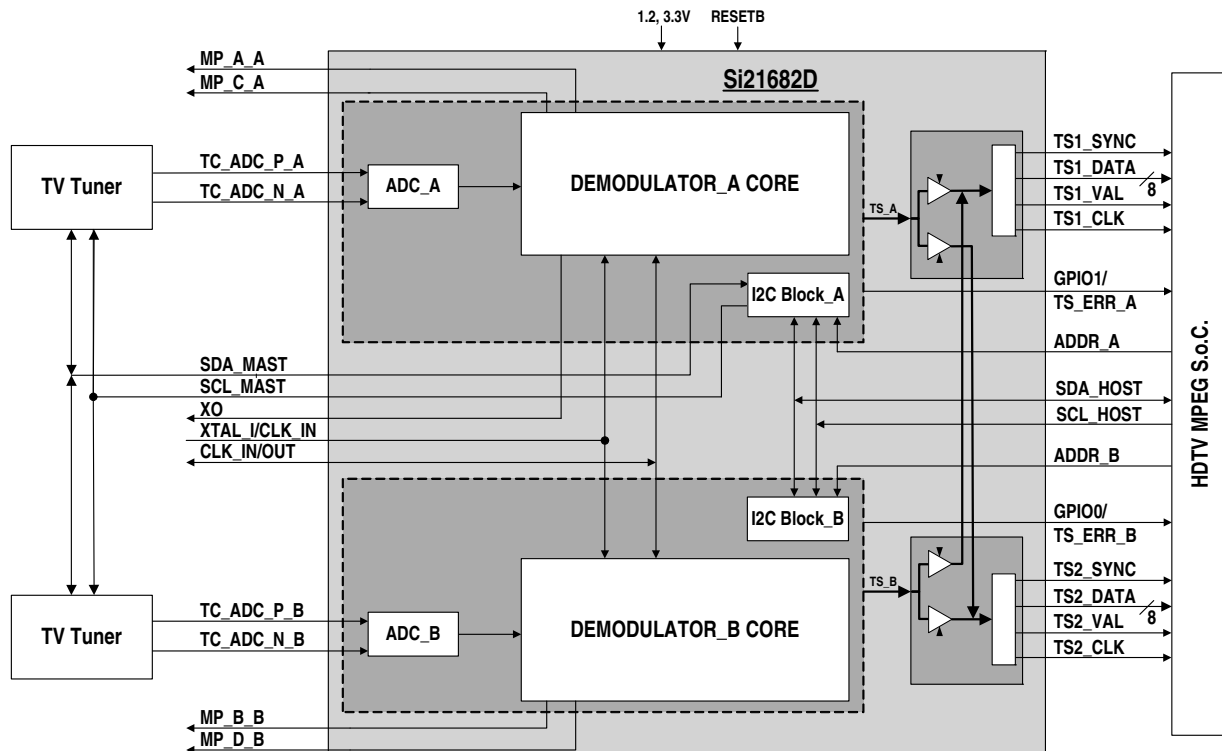
The Si21682D offers an on-chip blind scanning algorithm for the DVB-C standard, as well as blind lock function. The Si21682D embeds two independent programmable transport stream interfaces which provide a flexible range of output modes, including a cross-bar functionality, and are fully compatible with all MPEG decoders or conditional access modules to support any customer application.

Features

- Pin-to-pin compatible with all dual demodulator family: Si216x2 and Si218x2
- API compatible with all single and all dual demodulators
- DVB-T2 and T2-Lite (ETSI EN 302 755-V1.4.1)
 - Bandwidth: 1.7, 5, 6, 7 or 8 MHz
 - NorDig Unified 2.5 and D-Book 8 compliant
- DVB-T (ETSI EN 300 744)
 - NorDig Unified 2.5, D-Book 8 compliant
- DVB-C (ETSI EN 300 429) / ITU-T J.83 Annex A/B/C
 - 1 to 7.2 MSymbol/s, C-Book compliant
- I²C serial bus interfaces (master and host)
- Upgradeable with firmware patch download via fast SPI or I²C (broadcast mode supported)
- Dual independent differential IF input for T/C tuners
- GPIOs and multi-purpose ports (two per demodulator)
- Separate flexible TS interfaces with serial or parallel outputs and cross-bar feature
- Fast lock times for all standards
- Only two power supplies: 1.2 and 3.3 V
- 8x8 mm, QFN-68 pin package, Pb-free/RoHS compliant

Applications

- Multi-receiver iDTV: on-board or in a NIM
- Advanced multimedia PVR STBs
- PC-TV accessories
- PVR, DVD, and Blu-Ray disc recorders

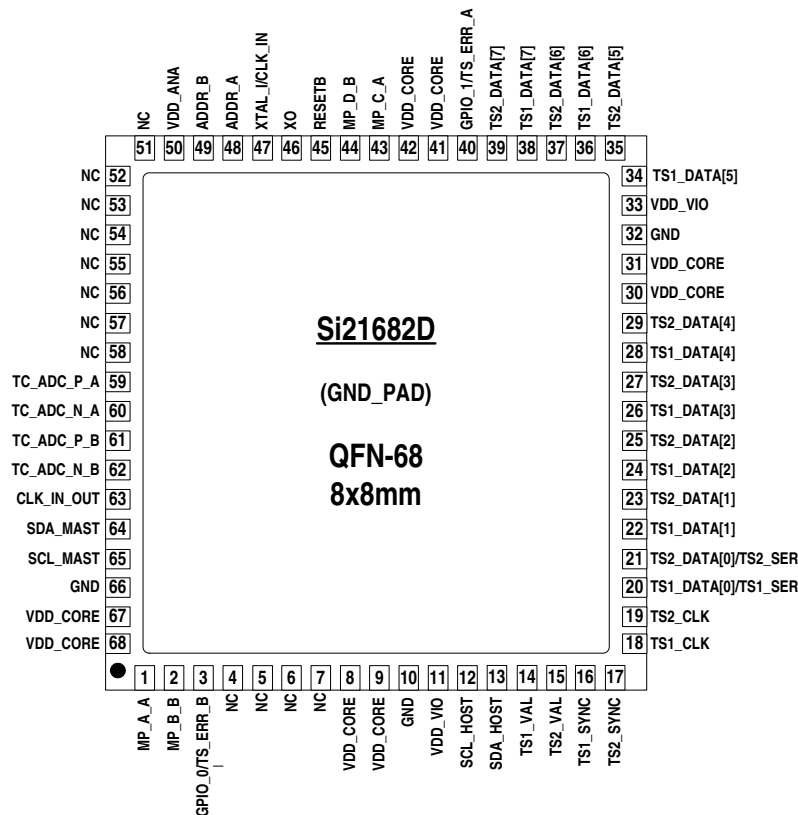


Selected Electrical Specifications

(T_A = -10 to 70 °C).

Parameter	Test Condition	Min	Typ	Max	Unit
General					
Input clock reference		4	—	30	MHz
Supported XTAL frequency		16	—	30	MHz
Total power consumption for each demodulator	DVB-T2 ¹	—	356	—	mW
	DVB-T ²	—	182	—	mW
	DVB-C ³	—	142	—	mW
Thermal resistance (θ _{JA})	4 layer PCB	—	42	—	°C/W
Power Supplies					
V _{DD_VCORE}		1.14	1.20	1.30	V
V _{DD_VANA}		3.00	3.30	3.60	V
V _{DD_VIO}		3.00	3.30	3.60	V
Notes:					
1. Test conditions: 8 MHz, 256-QAM, 32K FFT, CR = 3/5, GI = 1/128, PP7, parallel TS, C/N at picture failure.					
2. Test conditions: 8 MHz, 8K FFT, 64-QAM, parallel TS.					
3. Test conditions: 6.9 Mbaud, 256-QAM, parallel TS.					

Pin Assignments



Selection Guide

Part #	Description
Si21682-D60-GM/R	Dual Digital TV Demodulator for DVB-T2/T/C, 8x8 mm QFN-68