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Description

The Si4614 DAB/DAB+ radio processor provides significant advances in size, power consumption, and performance to enable DAB/DAB+ Radio reception in automotive infotainment systems and car radios. It is designed to work with the high-performance automotive Si479x family of radio tuners.

The low power high performance Si4614 DAB/DAB+ Radio processor provides channel demodulation and source decoding of DAB/DAB+ signals delivering audio and data.

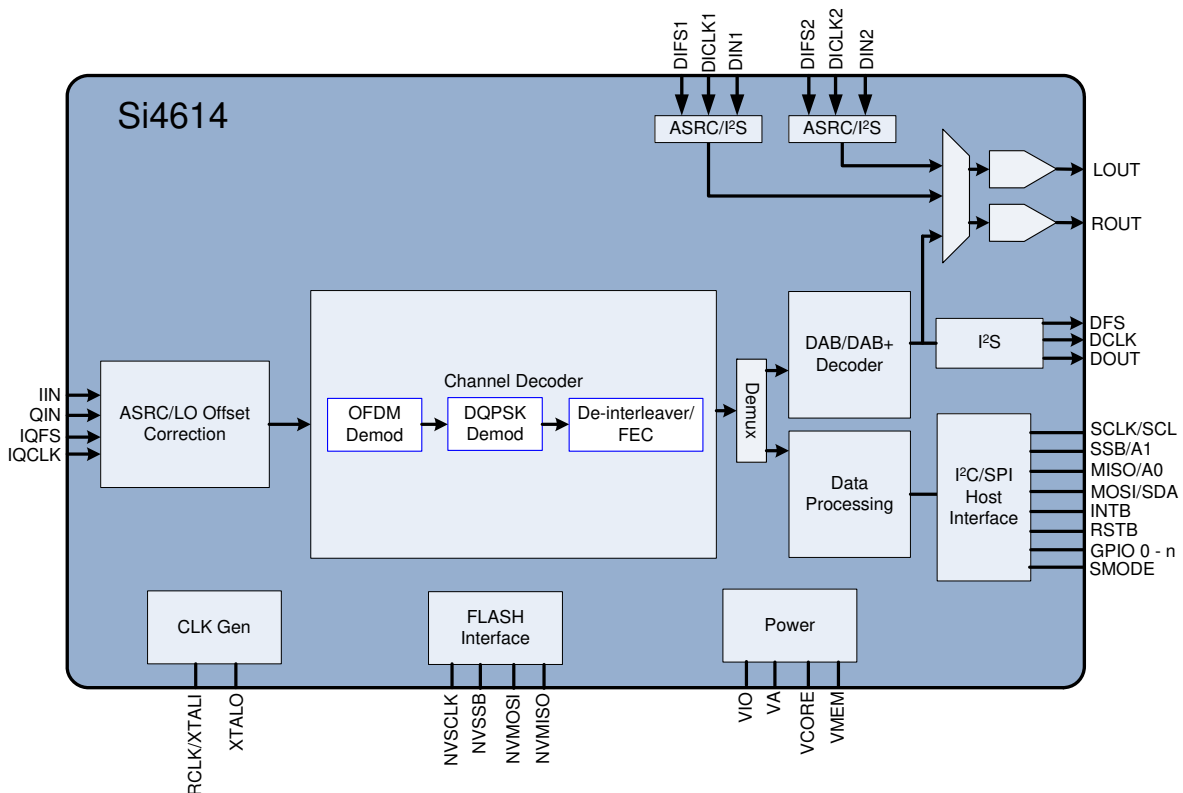
The Si4614 Radio processor provides DAB/DAB+ demodulation and decoding. In addition, the Si4614 provides an integrated clock oscillator or accepts a reference clock and supports a selectable control interface (SPI or I²C). The Si4614 processor system specifies a low minimal bill of materials, notably eliminating an external RAM memory module for channel decoding that is typically required in third party DAB/DAB+ Radio processors.

Features

- DAB/DAB+ demodulator
- Transmission Modes I, II, III, IV detection and decoding
- DAB/DAB+ audio decoder
 - PAD/XPAD outputs available
- FIC decoder
 - Ensemble info
 - Service list
 - Component info
 - Service linking info
- Full support for data services
 - Packet mode
 - Packet mode with Data Groups
 - Enhanced packet mode
 - MOT, TPEG packet outputs
- No external RAM required for channel decoding
- Flash memory interface for application program load
- Support for Si479x Zero-IF digital at 2.048 MS/s
- On-chip crystal oscillator
- Reference clock input
- SPI, I²C control interfaces
- 7x7 mm 48-pin QFN package
- Pb-free/RoHS compliant
- AEC-Q100 qualified

Applications

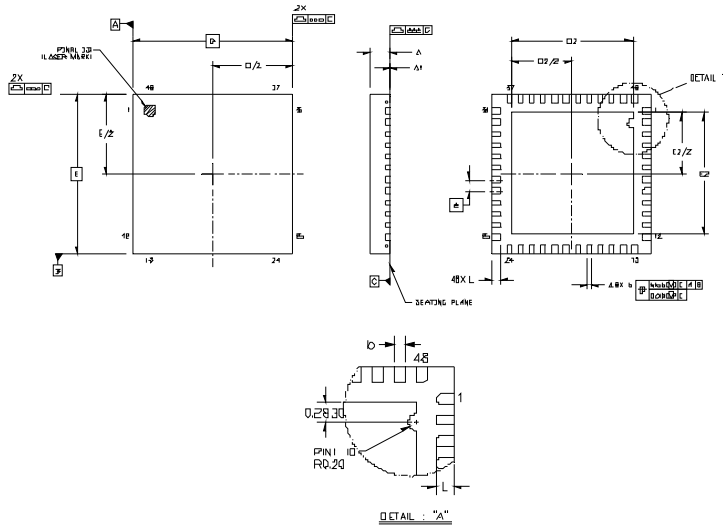
- Aftermarket car radio systems
- OEM automotive infotainment systems
- OEM automotive PND docking systems



Selected Electrical Specifications

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Analog Supply Voltage	V_A	—	1.71	1.8	2.0	V
Interface Supply Voltage	V_{IO}	—	1.62	1.8	3.6	V
Core Digital Supply Voltage	V_{CORE}	—	1.71	1.8	2.0	V
Memory Supply Voltage	V_{MEM}	—	1.71	1.8	2.0	V
Reference Clock						
Reference Clock Frequency	RCLK		—	36.864	—	MHz
Reference Clock Accuracy			-100	—	100	ppm
Reference Clock Duty Cycle			45	—	55	%
Crystal Oscillator						
Crystal Oscillator Frequency			—	36.864	—	MHz
Crystal Frequency Tolerance		37.209 MHz	-100	—	100	ppm
Load Capacitance		37.209 MHz	—	—	10	pF
ESR		37.209 MHz	—	—	50	Ω
Ambient Temperature	T_A		-40	25	85	$^{\circ}\text{C}$

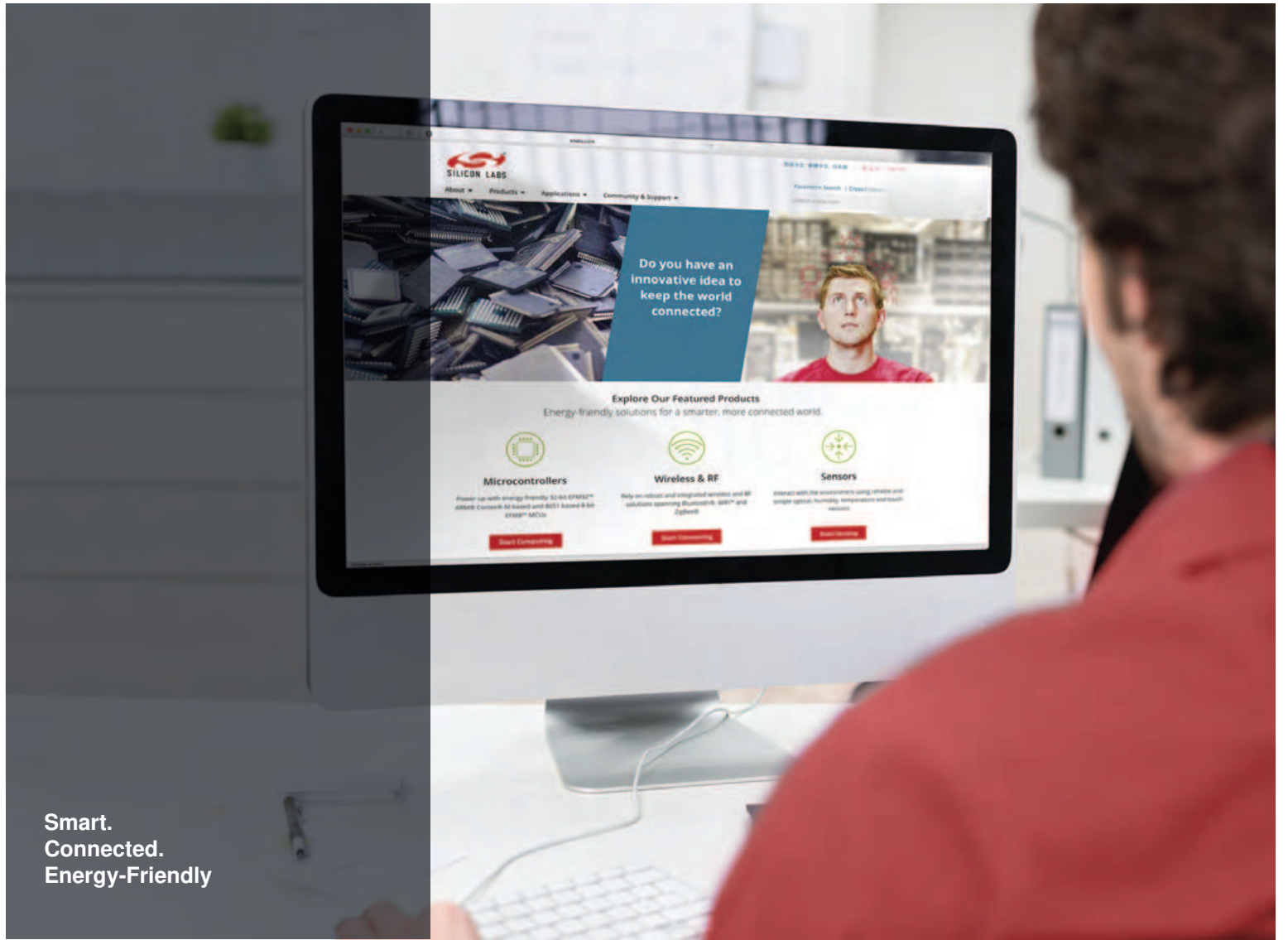
Si4614-A10



Dimension	Min	Nom	Max
A	0.80	0.85	0.90
A1	0.00	0.02	0.05
b	0.18	0.25	0.30
D		7.00 BSC	
D2	5.20	5.30	5.40
e		0.50 BSC	
E		7.00 BSC	
E2	5.20	5.30	5.40
L	0.30	0.40	0.50
aaa		0.15	
bbb		0.10	
ddd		0.05	
eee		0.08	

Notes:

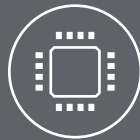
1. All dimensions are shown in millimeters (mm) unless otherwise noted.
2. Dimensioning and Tolerancing per ASME Y14.5M-1994.
3. This drawing conforms to the JEDEC Solid State Outline MO-220, Variation VKKD-4.
4. Recommended card reflow profile is per the JEDEC/IPC J-STD-020 specification for Small Body Components.



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