

### Selected Electrical Specifications

( $V_{DDH} = 3.3\text{ V}$ ,  $V_{DDL} = 1.8\text{ V}$ ,  $T_A = 25\text{ }^{\circ}\text{C}$ )

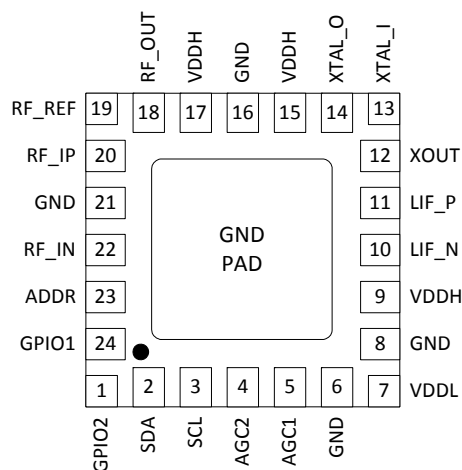
| Parameter                                     | Test Condition                     | Typ                          | Unit                          |
|-----------------------------------------------|------------------------------------|------------------------------|-------------------------------|
| Supply voltage                                |                                    | 1.8 and 3.3, or only 3.3     | V                             |
| Total Power Consumption                       | External 1.8 V supply, LT disabled | 486                          | mW                            |
| RF Input Frequency Range                      |                                    | 42 to 870                    | MHz                           |
| NF, cable mode                                | VHF-L1 (42–106 MHz)                | 4.8                          | dB                            |
|                                               | VHF-L2 (107–247 MHz)               | 2.8                          | dB                            |
|                                               | VHF-H (248–470 MHz)                | 3.5                          | dB                            |
|                                               | UHF (471–870 MHz)                  | 4.8                          | dB                            |
| Input Return Loss*                            | Cable mode                         | 8                            | dB                            |
| Composite Triple Beat                         |                                    | –56                          | dBc                           |
| Composite Second Order                        |                                    | –68                          | dBc                           |
| LO Phase Noise at 860 MHz                     | 1 kHz   10 kHz   100 kHz   1 MHz   | –100   –100   –105   –132    | dBc/Hz                        |
| LO Integrated Phase Noise at 860 MHz          | DSB: 125 Hz to 4 MHz               | 0.25<br>(–47)                | $^{\circ}\text{rms}$<br>(dBc) |
| LIF Output Center Frequency                   | Channel BW = 6 MHz   7 MHz   8 MHz | 4 to 7   4.5 to 6.5   5 to 6 | MHz                           |
| LIF Differential Output Voltage               | Programmable                       | 0.5 to 2.0                   | $V_{ppd}$                     |
| <b>Loop-Through Output (China DVB-C Mode)</b> |                                    |                              |                               |
| RF Frequency Range (LT only)                  |                                    | 42 to 870                    | MHz                           |
| LT Output Return Loss (Active)                |                                    | 8                            | dB                            |
| LT Noise Figure (Active)                      | Max gain                           | 7.1                          | dB                            |
| LT Gain                                       | Active mode                        | 2.9                          | dB                            |
|                                               | Zero-power mode                    | –2.2                         | dB                            |

**\*Note:** Includes all connector, PCB and front-end circuit losses at the F-connector input of the Si2144 EVB.

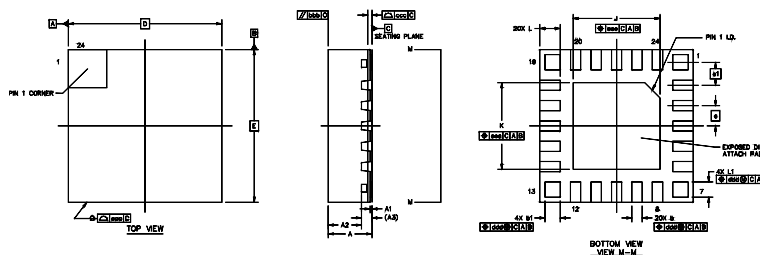
### Selection Guide

| Part # | Description                                                                     |
|--------|---------------------------------------------------------------------------------|
| Si2144 | Worldwide digital Set Top Box tuner for ATSC/QAM, DVB-T2/T/C2/C, ISDB-T/C, DTMB |

### Pin Assignments



### 3x3 mm QFN-24 Package Information



| Dimension | Min      | Nom  | Max  | Unit |
|-----------|----------|------|------|------|
| A         | 0.80     | 0.85 | 0.90 | mm   |
| D, E      | 3.00 BSC |      |      | mm   |
| e         | 0.40 BSC |      |      | mm   |
| e1        | 0.45 BSC |      |      | mm   |
| J, K      | 1.60     | 1.70 | 1.80 | mm   |