

Low-Voltage Analog Temperature Sensor in Tiny Package

Features

- $\pm 1.0^\circ\text{C}$ Temperature Accuracy
- Supply Voltage from 2.0V to 5.5V
- Operating Range: -55°C to 130°C
- Low, $18\mu\text{A}$ Supply Current
- SOT-553, TO-126F (Full Pack) and SC-70 Package

Applications

- Cellular Phones
- Computers
- Temperature Control
- Automotive
- Battery Management

General Description

The G711 is a low-power precision analog output CMOS temperature sensor. The output voltage of G711 is proportion to temperature. The voltage to temperature ratio is about $-11.6\text{mV}/^\circ\text{C}$. The G711 can operate over a range of -55°C to $+130^\circ\text{C}$ with a power supply voltage of +2.5V to +5.5V. The transfer function of G711 is almost linear, and the accuracy is $\pm 1.5^\circ\text{C}$ at $+30^\circ\text{C}$.

The quiescent current of G711 is about $18\mu\text{A}$, so that the self-heating effects can be ignored.

Because of the wide supply voltage range, the operating temperature range varies with the voltage supply. The G711 can be used over a range of -55°C to $+130^\circ\text{C}$ with a supply voltage of 2.5V to 5.5V. For lower supply voltage of 2.0V, the G711 can be used over a temperature range of 0°C to $+130^\circ\text{C}$.

Ordering Information

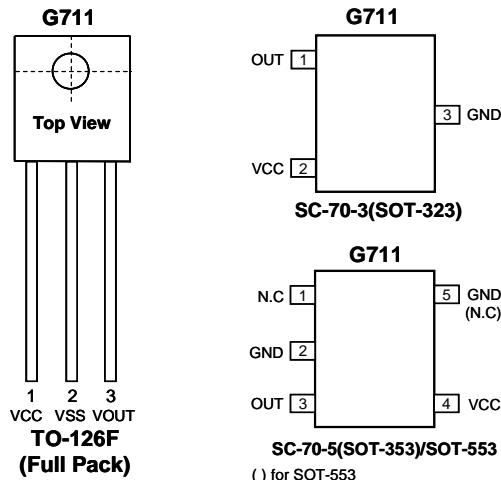
| ORDER NUMBER | MARKING | TEMP. ACCURACY | TEMP. RANGE | PACKAGE (Pb free/Green) |
|--------------|---------|-------------------------|---|-------------------------|
| G711BTN1B | G711B | $\pm 2.0^\circ\text{C}$ | $-55^\circ\text{C} \sim +130^\circ\text{C}$ | TO-126F |
| G711STN1B | G711S | $\pm 3.5^\circ\text{C}$ | $-55^\circ\text{C} \sim +130^\circ\text{C}$ | TO-126F |
| G711BTQ1U | 7Bx | $\pm 2.0^\circ\text{C}$ | $-55^\circ\text{C} \sim +130^\circ\text{C}$ | SOT-553 |
| G711STQ1U | 7Sx | $\pm 3.5^\circ\text{C}$ | $-55^\circ\text{C} \sim +130^\circ\text{C}$ | SOT-553 |
| G711BT9U | 711Bx | $\pm 2.0^\circ\text{C}$ | $-55^\circ\text{C} \sim +130^\circ\text{C}$ | SC-70-3(SOT-323) |
| G711ST9U | 711Sx | $\pm 3.5^\circ\text{C}$ | $-55^\circ\text{C} \sim +130^\circ\text{C}$ | SC-70-3(SOT-323) |
| G711BTAU | 711Bx | $\pm 2.0^\circ\text{C}$ | $-55^\circ\text{C} \sim +130^\circ\text{C}$ | SC-70-5(SOT-353) |
| G711STAU | 711Sx | $\pm 3.5^\circ\text{C}$ | $-55^\circ\text{C} \sim +130^\circ\text{C}$ | SC-70-5(SOT-353) |

Note: TN: TO-126F T9: SC-70-3(SOT-323) TA: SC-70-5(SOT-353) TQ:SOT-553

1: Bonding Code (only TO-126F, SOT-553)

B: Bag U: Tape & Reel

Pin Configuration



Typical Application Circuit

