IC detects lightning up to 40 km away, targets portable apps

austriamicrosystems introduced what it asserts is the world's first lightning sensor IC, the AS3935 Franklin Lightning Sensor with an embedded intelligent algorithm. The IC provides people with advanced warning of approaching electrical storms giving them additional time to take shelter. The AS3935 Franklin Lightning Sensor uses a sensitive RF receiver that detects the electrical emissions from lightning activity. A proprietary algorithm then converts the RF signal into an estimation of the distance to the head of the storm. The algorithm, which draws on extensive meteorological survey data, produces an estimated distance-to-storm calculation from 40 km down to 1 km, while rejecting disturbances from man-made signals such as motors and microwave ovens. With the introduction of the AS3935 Franklin Lightning Sensor, it is now possible to incorporate this sensor technology into a wide variety of portable devices. With multiple low-power modes, a listening mode current consumption of 60 µA and housed in a 4mm x 4mm 16-pin MLPQ package, the AS3935 can easily be integrated into a variety of portable or outdoor devices targeting biking, hiking, marine, golfing, sporting events (football, soccer, baseball, etc.), and also in-building equipment such as uninterupted power supplies (UPS), power conditioners, telcom equipment, intelligent networks and smart grids needing early detection for use in surge damage prevention.

A typical application for the AS3935 requires only a simple microcontroller with a SPI or I^2C interface and seven other passive components allowing it to fit easily in a space about the size of an automobile keychain remote.

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