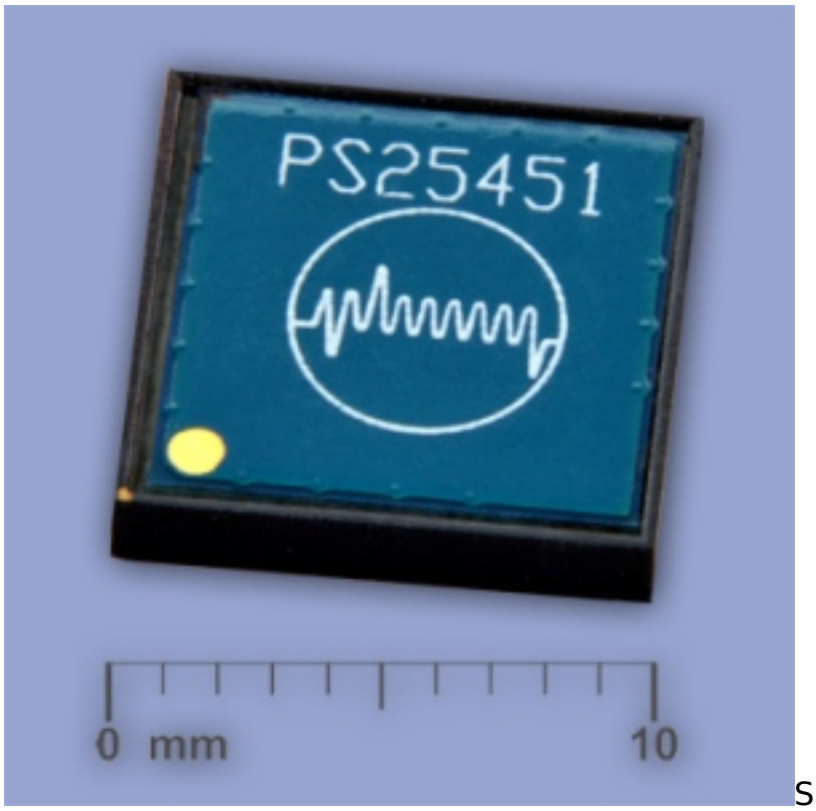
Low-Cost EPIC sensor for high-volume remote sensing consumer applications



Saelig Co. Inc. announces the PS25451, an ultra-low cost version of Plessey's award winning EPIC Sensor that provides remote sensing for high-volume consumer markets. The PS25451's novel, economical electrode design eliminates the more expensive titanium dioxide electrodes currently used in higher-end medical applications. The EPIC Sensor (Electric Potential Integrated Circuit) is a new, innovative device that measures electric field changes without physical or resistive contact. EPIC is an award winning, patent-protected technology for rapidly measuring spatial electric fields. The PS25451 is an ultra-high impedance, non-contact, solid-state electric potential sensor that is ideally suited for a variety of consumer devices such as proximity switching of lighting, gesture-based remote control of interactive toys, computer games, TVs, monitors, other appliances, and presence detection - even through walls - for security/alarm systems. The EPIC sensor works by measuring tiny changes in an electric field in a similar way to a magnetometer detecting changes in a magnetic field even at a distance and through clothing. This enables it to be used for security motion sensors and non-contact electrical switches as well as medical applications detecting heart beats, nerve and muscle activity either by dry contact (i.e. no gels required) or contactless.

The PS25451 is housed in a proprietary 3D package with exposed pins for surface-mount assembly, and measures 10mm x 10mm x 2mm. By adjusting the gain and bandwidth of the associated amplification circuitry, the sensors can be tuned for detection at a distance as required.

EPIC technology functions at normal room temperatures as an ultra-high input impedance sensor that forms a highly stable, extremely sensitive, contactless digital voltmeter to measure millivolt electric field changes. EPIC technology is so sensitive that it can detect human body movement at a distance or through a solid wall.
EPIC technology and reference designs will be shown on Plessey's booth 627 at the Chicago Sensors Expo Show in June 6-7, 2012.

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