PS25402
EPIC Ultra High Impedance Movement Sensor
Advance Information

Data Sheet 291470 issue 1

FEATURES

- Ultra high input resistance, typically > 300GΩ.
- Input capacitance as low as 16pF.
- Upper 3dB point typically 20kHz.
- Operates with bipolar power supply from ±2.4V to ±4.0V.
- Sensors supplied in a custom package with exposed pins for surface mount assembly.

APPLICATIONS

- Proximity switching of lighting and similar electric circuits
- Remote control of TVs and other domestic appliances
- Presence detection for security / alarm systems
- Room occupancy detection for rescue services
- Simple gesture recognition to control children's toys
- Controller-less computer gaming systems
- Remote life-sign detection

Ordering Information

PS25402
Custom package (drawing to be released)

-25°C to +75°C

Plessey Semiconductors Electric Potential Integrated Circuit (EPIC) product line targets a range of applications.

The PS25402 is an ultra high impedance non-contact solid state electric potential sensor. It can be used to detect field disturbance due to the movement of a near-by object. This particular sensor has been optimised for movement and remote life-sign detection.

The device uses active feedback techniques to both lower the effective input capacitance of the sensing element (Cin) and boost the input resistance (Rin). These techniques are used to realise a sensor with a frequency response suitable for remote sensing applications.

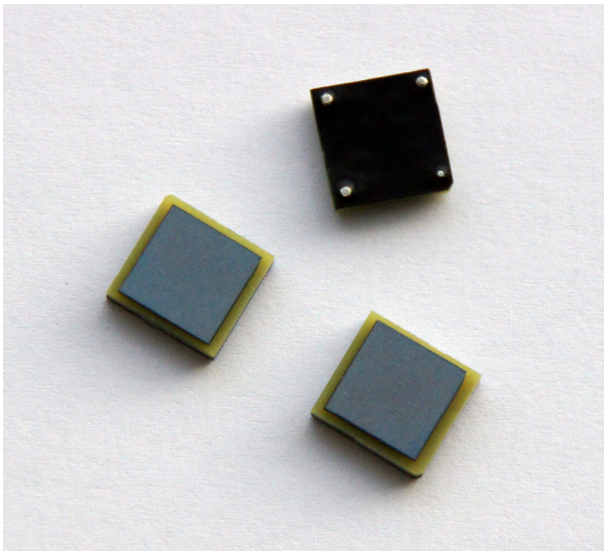


Fig. 1 The PS25402 Sensor

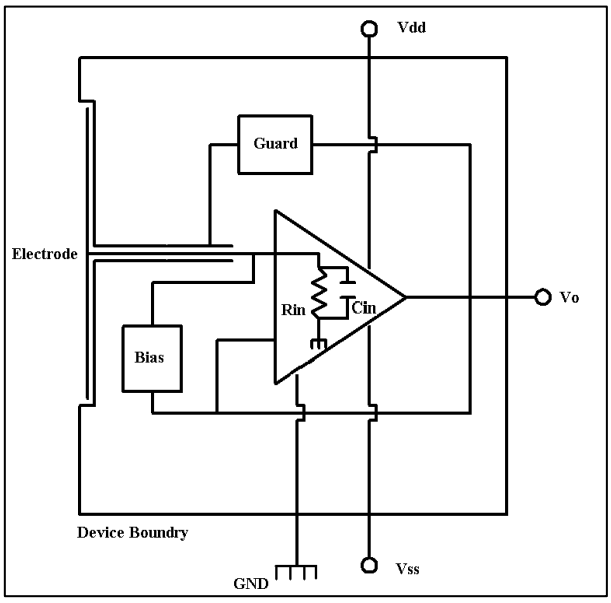


Fig. 2 Internal circuit of EPIC Movement Sensor

Plessey Semiconductors Ltd.
Design & Technology Centre, Delta 500, Delta Business Park, Great Western Way, Swindon, UK SN5 7XE
Tel: +44 1793 518000 Fax: +44 1793 518030 Web: www.plesseysemi.com

ELECTRICAL CHARACTERISTICS

T_{amb} = -25°C to +75°C, Vdd/Vss ±2.4V to ±4.0V. The electrical characteristics are guaranteed by either production test or by design and characterisation. They apply within the specified ambient temperature and supply voltage unless otherwise stated.

Characteristics	Value			Units	Conditions
	Min.	Typ.	Max.		
Supply voltage	±2.4		±4.0	V	Bipolar, Gnd=0V
Supply current	1.5	2.1	3.0	mA	
Input resistance (Rin)		300	tbd	GΩ	
Input capacitance		16		pF	
Voltage Gain (Av)		10			
Effective input capacitance (Cine)		16		pF	
Noise		tbd			

PIN ASSIGNMENT

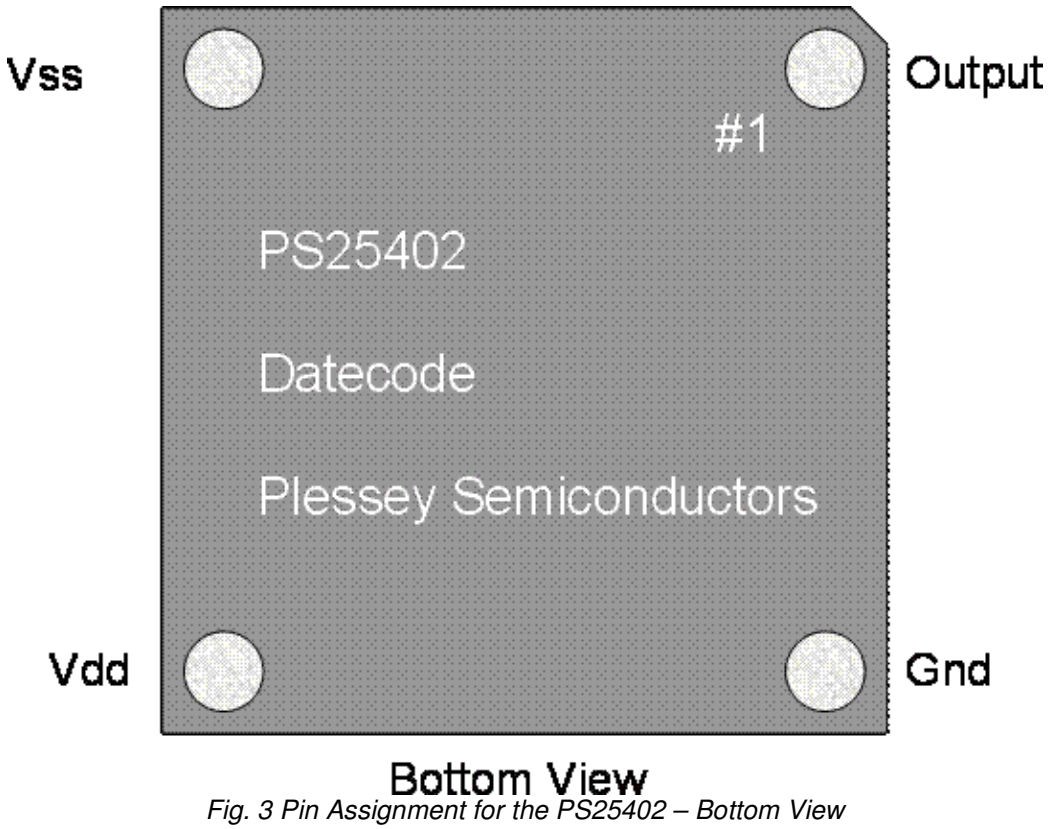


Fig. 3 Pin Assignment for the PS25402 – Bottom View

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MECHANICAL DIMENSIONS

A preliminary package diagram is shown below. This is certain to change and so should only be used for illustration purposes.

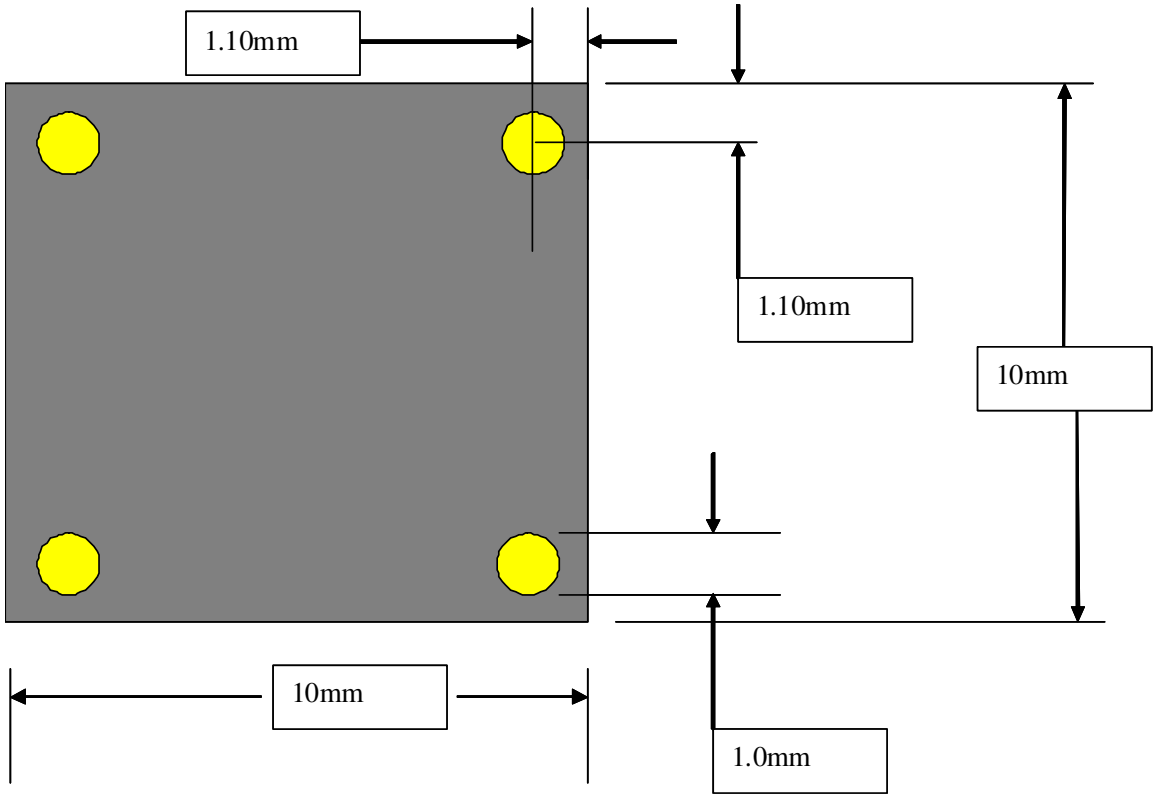


Fig. 4 Underside View of the Module

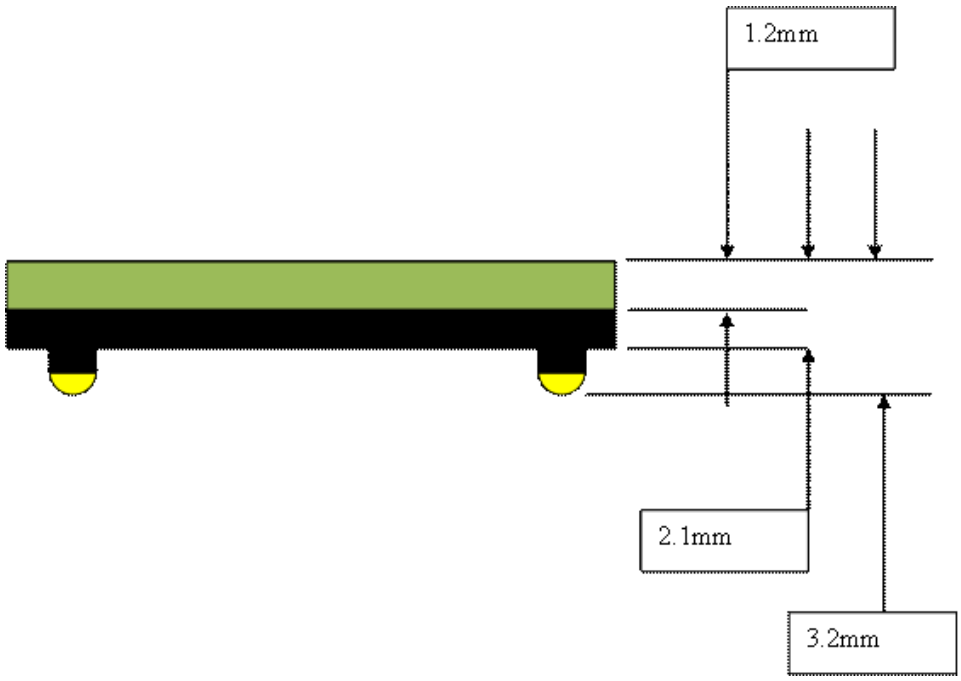


Fig. 5 Side View of the Module

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