Honeywell Sensing and Control has replaced the PDF product catalog with the new Interactive Catalog. The Interactive Catalog is a power search tool that makes it easier to find product information. It includes more installation, application, and technical information than ever before.

Click this icon to try the new Interactive Catalog.
**Solid State Hall Effect Sensors**

**High Performance Miniature Ratiometric Linear**

**SS490 Series**

**FEATURES**
- Small size (.160 x .118 in)
- Power consumption of 7 mA at 5 VDC for energy efficiency
- Single current sinking or current sourcing output
- Linear output for circuit design flexibility
- Built-in thin film resistors are laser trimmed for precise sensitivity and temperature compensation
- Rail-to-rail operation provides more useable signal for higher accuracy
- Temperature range of -40°C to +150°C
- Responds to either positive or negative gauss
- Quad Hall sensing element for stable output

**TYPICAL APPLICATIONS**
- Current sensing
- Motor control
- Position sensing
- Magnetic code reading
- Rotary encoder
- Ferrous metal detector
- Vibration sensing
- Liquid level sensing
- Weight sensing

**WARNING**

**PERSONAL INJURY**
- DO NOT USE these products as safety or emergency stop devices, or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

**WARNING**

**MISUSE OF DOCUMENTATION**
- The information presented in this product sheet is for reference only. Do not use this document as product installation information.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.
### SPECIFICATIONS (V<sub>s</sub> = 5.0 V, t<sub>a</sub> = -40 to +125°C, unless otherwise noted)

<table>
<thead>
<tr>
<th>Catalog Listing Type</th>
<th>SS495A</th>
<th>SS495A1</th>
<th>SS495A2</th>
<th>SS495B</th>
<th>SS496A</th>
<th>SS496A1</th>
<th>SS496B</th>
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</thead>
<tbody>
<tr>
<td>Supply Voltage (VDC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>4.5 to 10.5</td>
<td></td>
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<tr>
<td>Supply Current @ 25°C (mA)</td>
<td>Typ.</td>
<td>7.0</td>
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<tr>
<td></td>
<td>Max.</td>
<td>8.7</td>
<td></td>
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<tr>
<td>Output Type (Sink or Source)</td>
<td>Ratiometric</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Output Current (mA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Typ. Sink or Source Vs &gt; 4.5 V</td>
<td>1.5</td>
<td></td>
<td></td>
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<tr>
<td>Min. Source Vs &gt; 4.5 V</td>
<td>1.0</td>
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<td>Min. Sink Vs &gt; 4.5 V</td>
<td>0.6</td>
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<tr>
<td>Min. Sink Vs &gt; 5.0 V</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40 to +150°C (-40 to +302°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnetic Range, Gauss</td>
<td>Typ.</td>
<td>± 670</td>
<td>± 670</td>
<td>± 670</td>
<td>± 840</td>
<td>± 840</td>
<td>± 840</td>
</tr>
<tr>
<td></td>
<td>Min.</td>
<td>± 600</td>
<td>± 600</td>
<td>± 600</td>
<td>± 750</td>
<td>± 750</td>
<td>± 750</td>
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<tr>
<td>Output Voltage Span</td>
<td>Typ.</td>
<td>0.2 to (Vs-0.2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Min.</td>
<td>0.4 to (Vs-0.4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Null (Output @ 0 Gauss, V)</td>
<td>2.50 ±0.075</td>
<td>2.50 ±0.075</td>
<td>2.50 ±0.100</td>
<td>2.50 ±0.150</td>
<td>2.50 ±0.075</td>
<td>2.50 ±0.075</td>
<td>2.50 ±0.150</td>
</tr>
<tr>
<td>Sensitivity (mV/G)</td>
<td>3.125 ±0.125</td>
<td>3.125 ±0.094</td>
<td>3.125 ±0.156</td>
<td>3.125 ±0.250</td>
<td>2.50 ±0.100</td>
<td>2.50 ±0.075</td>
<td>2.50 ±0.200</td>
</tr>
<tr>
<td>Linearity, % of Span</td>
<td>Typ.</td>
<td>-1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Max.</td>
<td>-1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Error</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Null Drift (%/°C)</td>
<td>± 0.06</td>
<td>± 0.04</td>
<td>± 0.07</td>
<td>± 0.08</td>
<td>± 0.048</td>
<td>± 0.03</td>
<td>± 0.06</td>
</tr>
<tr>
<td>Sensitivity Drift (%/°C)</td>
<td>≥ 25°C Max.</td>
<td>-0.01, +0.05</td>
<td>-0.02, +0.06</td>
<td>-0.02, +0.06</td>
<td>-0.01, +0.05</td>
<td>-0.01, +0.05</td>
<td>-0.01, +0.05</td>
</tr>
<tr>
<td></td>
<td>&lt; 25°C Max.</td>
<td>0.0, +0.06</td>
<td>0.0, +0.06</td>
<td>-0.01, +0.07</td>
<td>-0.02, +0.06</td>
<td>0.0, +0.06</td>
<td>0.0, +0.06</td>
</tr>
</tbody>
</table>

### BLOCK DIAGRAM

- Hall Sensor
- Amplifier
- Output (+)
- Output (−)
- Vs (+)
- V− (−)

### MAXIMUM SUPPLY VOLTAGE vs. TEMPERATURE

- Maximum allowable ambient temperature
- Cross-hatched area: acceptable operating region
- Supply volts: 4.5 to 10.5
- Ambient temperature °C:
  - 125°C
  - 150°C

### TRANSFER CHARACTERISTICS at Vs = 5.0 VDC

- Output voltage span: 0.2 to (Vs-0.2)
- Null voltage: 2.50 ±0.075
- Sensitivity: 3.125 ±0.125
- Linearity: -1.0 % of span
- Temperature error: ±0.06%

For application help: call 1-800-537-6945
Solid State Hall Effect Sensors
High Performance Miniature Ratiometric Linear

SS490 Series

MOUNTING DIMENSIONS (for reference only) mm/in

TAPE STYLE T2

TAPE STYLE T3

TAPE STYLE P

SENSOR PACKAGE (1 Centerline of Hall cell)

OPTIONAL SURFACE MOUNT

For application help: call 1-800-537-6945

Honeywell • Sensing and Control
Solid State Hall Effect Sensors
High Performance Miniature Ratiometric Linear
SS490 Series

**ABSOLUTE MAXIMUM RATINGS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage (V&lt;sub&gt;s&lt;/sub&gt;)</td>
<td>-0.5 to +11 VDC</td>
</tr>
<tr>
<td>Output current (mA)</td>
<td>10 mA</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40°C to +150°C (-40°F to +302°F)</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-55°C to +165°C (-67°F to +329°F)</td>
</tr>
<tr>
<td>Magnetic flux</td>
<td>No limit. Circuit cannot be damaged by magnetic over-drive</td>
</tr>
</tbody>
</table>

* Absolute maximum ratings are the extreme limits that the device will withstand without damage to the device. However, the electrical and mechanical characteristics are not guaranteed as the maximum limits (above recommended operating conditions) are approached, nor will the device necessarily operate at absolute maximum ratings.

**NOTICE**

Products ordered in bulk packaging (plastic bags) may not have perfectly straight leads as a result of normal handling and shipping operations. Please order a tape packaging option for applications with critical requirements for straight leads.

**WARRANTY/REMEDY**

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer’s sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use. While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office. Or call: 1-800-537-6945 USA 1-800-737-3360 Canada 1-815-235-6847 International

**FAX**
1-815-235-6545 USA

**INTERNET**
www.honeywell.com/sensing
info@micro.honeywell.com

Honeywell
Sensing and Control
Honeywell Inc.
11 West Spring Street
Freeport, Illinois 61032

www.honeywell.com/sensing