Features:
- Wide operating temperature range -55°C to +200°C
- High magnetic sensitivity
- Low current CMOS Technology
- Wide operating voltage range 3.5 to 20 V
- Chopper stabilized amplifier minimizes amplifier offset resulting in improved temperature stability

Applications:
- Solid state switch
- Motor controls
- Speed sensing
- Angular Position sensing
- Linear Position Sensing
- Current Sensing

DESCRIPTION
The 65025 Hall effect sensor detects the presence of a magnetic field and provides a switch output. It is packaged in a hermetically sealed three pin ceramic package and can be used in many harsh environments. An internal chopper stabilized amplifier eliminates input offset voltages normally associated with bipolar devices resulting in improved operating point stability. The output transistor will be “latched ON” in the presence of a sufficiently strong South pole magnetic field facing the marked side of the package. The output will be “latched OFF” in the presence of a resetting North pole magnetic field.

ABSOLUTE MAXIMUM RATINGS
Supply Voltage Range..........................................................3.5 V to 20.0 V
Supply Current (Fault) ..........................................................50 mA.
Power Dissipation, @ T_A = 25°C (P_D) ........................................500 mW
Magnetic Flux Density ............................................................Unlimited
Output ON Current (I_{OUT}) ....................................................25mA
Storage Temperature..........................................................-65°C to +200°C
Operating Free-Air Temperature Range.................................-55°C to +200°C
Lead temperature (10 seconds, 1/16” from case)............................+260°C

Schematic Diagram

Package Dimensions

REGULATOR

HALL CELL

1 V_{CC}

3 V_{OUT}

2 GND

TOLERANCE: ±0.010 [±0.25] UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]
### ELECTRICAL CHARACTERISTICS

$T_A = 25$°C, $V_{CC} = 5\text{V}$ unless otherwise specified.

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>SYMBOL</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNITS</th>
<th>TEST CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Current</td>
<td>$I_{CC}$</td>
<td>1.5</td>
<td>2.5</td>
<td>7.0</td>
<td>mA</td>
<td>$V_{CC}=15\text{V}$, $B &lt; B_{OP}$</td>
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<tr>
<td>Saturation Voltage</td>
<td>$V_{OL}$</td>
<td></td>
<td>0.4</td>
<td></td>
<td>V</td>
<td>$I_{OUT} = 20\text{mA}$, $B &gt; B_{OP}$</td>
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<tr>
<td>Output Leakage</td>
<td>$I_{OFF}$</td>
<td>0.01</td>
<td>5</td>
<td></td>
<td>$\mu$A</td>
<td>$B &lt; B_{OP}$, $V_{OUT}=15\text{V}$</td>
</tr>
<tr>
<td>Output Rise Time</td>
<td>$T_R$</td>
<td>100</td>
<td>200</td>
<td></td>
<td>ns</td>
<td>$V_{CC} = 12\text{V}$, $R_L = 820\Omega$, $C_L = 20\text{pF}$</td>
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<tr>
<td>Output Fall Time</td>
<td>$T_f$</td>
<td>180</td>
<td>350</td>
<td></td>
<td>ns</td>
<td>$V_{CC} = 12\text{V}$, $R_L = 820\Omega$, $C_L = 20\text{pF}$</td>
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</tbody>
</table>

### MAGNETIC CHARACTERISTICS

$T_A = 25$°C, $V_{CC} = 5\text{V}$

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>SYMBOL</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNITS</th>
<th>TEST CONDITIONS</th>
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<tbody>
<tr>
<td>Operate Point</td>
<td>$B_{OP}$</td>
<td>10</td>
<td>75</td>
<td>150</td>
<td>Gauss</td>
<td>$V_{cc} = 5\text{V}$, $R_{L} = 1\text{K}\Omega$</td>
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<tr>
<td>Release Point</td>
<td>$B_{RP}$</td>
<td>-100</td>
<td>-50</td>
<td>-10</td>
<td>Gauss</td>
<td>$V_{cc} = 5\text{V}$, $R_{L} = 1\text{K}\Omega$</td>
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<tr>
<td>Hysteresis</td>
<td>$B_{hys}$</td>
<td>70</td>
<td>100</td>
<td>120</td>
<td>Gauss</td>
<td>$V_{cc} = 5\text{V}$, $R_{L} = 1\text{K}\Omega$</td>
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</tbody>
</table>

### ORDERING INFORMATION:

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>65025-001</td>
<td>Commercial</td>
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<tr>
<td>65025-101</td>
<td>Screened</td>
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