The PE82P5000 is a Digitally Controlled Analog Phase Shifter that operates from 0.5 GHz to 2 GHz. The unit has the capability for Phase Shifting from 0° to 360°. The unit consists of an Analog Phase Shifter and a Digital-To-Analog converter with 8 bits of logic input lines that allow 256 discrete values of Phase.

**Features**
- Analog Phase Shifter
- 0.5 GHz to 2 GHz Frequency Range
- 360 Deg Typ Phase Shift
- 0 - 10 VDC Control Voltage Range
- 1 Watt CW Max Input Power
- Insertion Loss 13 dB Max

**Applications**
- Electronic Warfare
- Test & Measurement
- Military & Space
- Radar
- Military Communications Systems

**Electrical Specifications** (Values at 25°C, sea level)

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>0.5</td>
<td>2</td>
<td>2</td>
<td>GHz</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td></td>
<td></td>
<td>13</td>
<td>dB</td>
</tr>
<tr>
<td>Amplitude Error</td>
<td>±1</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Phase Shift Error</td>
<td>±10°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase Shift Range</td>
<td>360° in 256 Steps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Input</td>
<td>8 Bit TTL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switching Speed @50% TTL to within</td>
<td>500</td>
<td></td>
<td>500</td>
<td>ns</td>
</tr>
<tr>
<td>(10% of Final Phase Value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>DC Power Supply</td>
<td>15</td>
<td></td>
<td>-15</td>
<td>Volts</td>
</tr>
</tbody>
</table>

**Mechanical Specifications**

**Size**
- Length: 4.95 in [125.73 mm]
- Width: 3.38 in [85.85 mm]
- Height: 1 in [25.4 mm]

**Environmental Specifications**

**Temperature**
- Operating Range: 0 to +50 deg C
- Humidity: MIL-STD-202F, METHOD 103B COND. B

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz, 360 Deg Phase Shift, 256 Steps and SMA PE82P5000
# TECHNICAL DATA SHEET

## Vibration
MIL-STD-202F, METHOD 204D COND. B

## Altitude
MIL-STD-202F, METHOD 105C COND. B

## Temperature Cycle
MIL-STD-202F, METHOD 107

### Compliance Certifications
(visit www.Pasternack.com for current document)
Not RoHS Compliant

### Plotted and Other Data
**Notes:**
- Values at +25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

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8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz, 360 Deg Phase Shift, 256 Steps and SMA

TECHNICAL DATA SHEET

Performance Data

Phase Plot at 25° C

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Phase Plot at 25° C

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Phase Plot Taken at 0°C
8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz, 360 Deg Phase Shift, 256 Steps and SMA

TECHNICAL DATA SHEET

Phase Plot Taken at 50°C

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz, 360 Deg Phase Shift, 256 Steps and SMA PE82P5000
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8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz, 360 Deg Phase Shift, 256 Steps and SMA

TECHNICAL DATA SHEET

Switching Speed

Agilent Technologies

Channel 1 (Yellow Trace): RF output signal
Channel 2 (Green Trace): TTL trigger signal

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz, 360 Deg Phase Shift, 256 Steps and SMA PE82P5000
8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz, 360 Deg Phase Shift, 256 Steps and SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz, 360 Deg Phase Shift, 256 Steps and SMA PE82P5000


The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.
8 Bit Programmable Phase Shifter, 500 MHz to 2 GHz,
360 Deg Phase Shift, 256 Steps and SMA

PASTERNACK
PE82P5000

PIN DESCRIPTION
1 LOGIC INPUTS (LSB)
2 LOGIC INPUTS
3 LOGIC INPUTS
4 LOGIC INPUTS
5 LOGIC INPUTS
6 LOGIC INPUTS
7 LOGIC INPUTS
8 LOGIC INPUTS (MSB)
9 NO CONNECTION
10 NO CONNECTION
11 NO CONNECTION
12 NO CONNECTION
13 +15 VDC
14 -15 VDC
15 GROUND

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES (mm).