

## DESCRIPTION

PMI MODEL PDPS-510-6, IS A SIX BIT PHASE SHIFTER WITH A SPEED OF 300 nSEC MAXIMUM, (100 nSEC TYPICAL). DESIGNED TO OPERATE AT A FREQUENCY OF 5 TO 10 GHz, WITH A VSWR OF 2.0:1. THIS UNIT HAS AN INSERTION LOSS OF 6.5 dB MAXIMUM AND A PHASE ACCURACY OF  $\pm 6^\circ$  MAXIMUM,  $3^\circ$  TYPICAL.

## SPECIFICATIONS

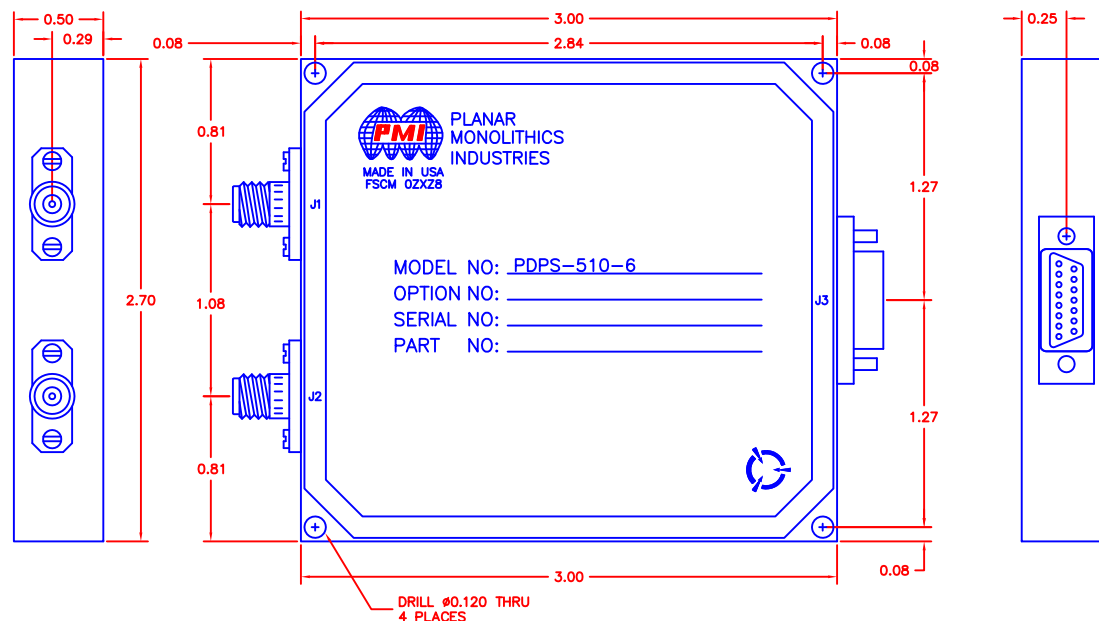
- FREQUENCY RANGE: ..... 5 TO 10 GHz
- INSERTION LOSS: ..... 6.5 dB MAXIMUM
- VSWR: ..... 2.0:1
- PHASE STATES: .....  $5.6^\circ$ ,  $11.2^\circ$ ,  $22.4^\circ$ ,  $45^\circ$ ,  $90^\circ$ ,  $180^\circ$
- PHASE ACCURACY: .....  $\pm 6^\circ$  MAXIMUM,  $3^\circ$  TYPICAL
- SWITCHING SPEED: ..... 300nSEC MAXIMUM, 100nSEC TYPICAL
- POWER SUPPLY: ..... +5V @ 50 mA MAXIMUM  
..... -15V @ 50 mA MAXIMUM
- CONNECTORS:
  - RF: ..... SMA FEMALE INPUT & OUTPUT
  - CONTROL: ..... TTL THRU "D" MULTIPIN CONNECTOR
- SIZE: ..... 3.00" X 2.70" X 0.50"

| 15 Pin Sub-D Connector Pin Out |                             |
|--------------------------------|-----------------------------|
| Pin 1                          | TTL CONTROL $180^\circ$ MSB |
| Pin 2                          | TTL CONTROL $90^\circ$      |
| Pin 3                          | TTL CONTROL $45^\circ$      |
| Pin 4                          | TTL CONTROL $22.5^\circ$    |
| Pin 5                          | TTL CONTROL $11.25^\circ$   |
| Pin 6                          | TTL CONTROL $5.6^\circ$ LSB |
| Pin 7                          | (+5VDC)                     |
| Pin 8                          | (-15VDC)                    |
| Pin 9                          | P.S. RETURN (CASE GROUND)   |
| Pin 10-15                      | TTL RETURN (CASE GROUND)    |

## ENVIRONMENTAL RATINGS:

- TEMPERATURE: .....  $-40^\circ\text{C}$  TO  $+85^\circ\text{C}$  (OPERATING)  
.....  $-65^\circ\text{C}$  TO  $+100^\circ\text{C}$  (STORAGE)
- HUMIDITY: ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK: ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: ..... MIL-STD-202F, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



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## PLANAR MONOLITHICS INDUSTRIES, INC.

7311-G GROVE ROAD  
FREDERICK, MARYLAND 21704 USA  
TEL: 301-631-1579 FAX: 301-662-2029  
WEBSITE: [www.planarmonolithicsindustries.com](http://www.planarmonolithicsindustries.com)  
E-MAIL: [sales@planarmonolithics.com](mailto:sales@planarmonolithics.com)  
ISO 9001:2000 CERTIFIED



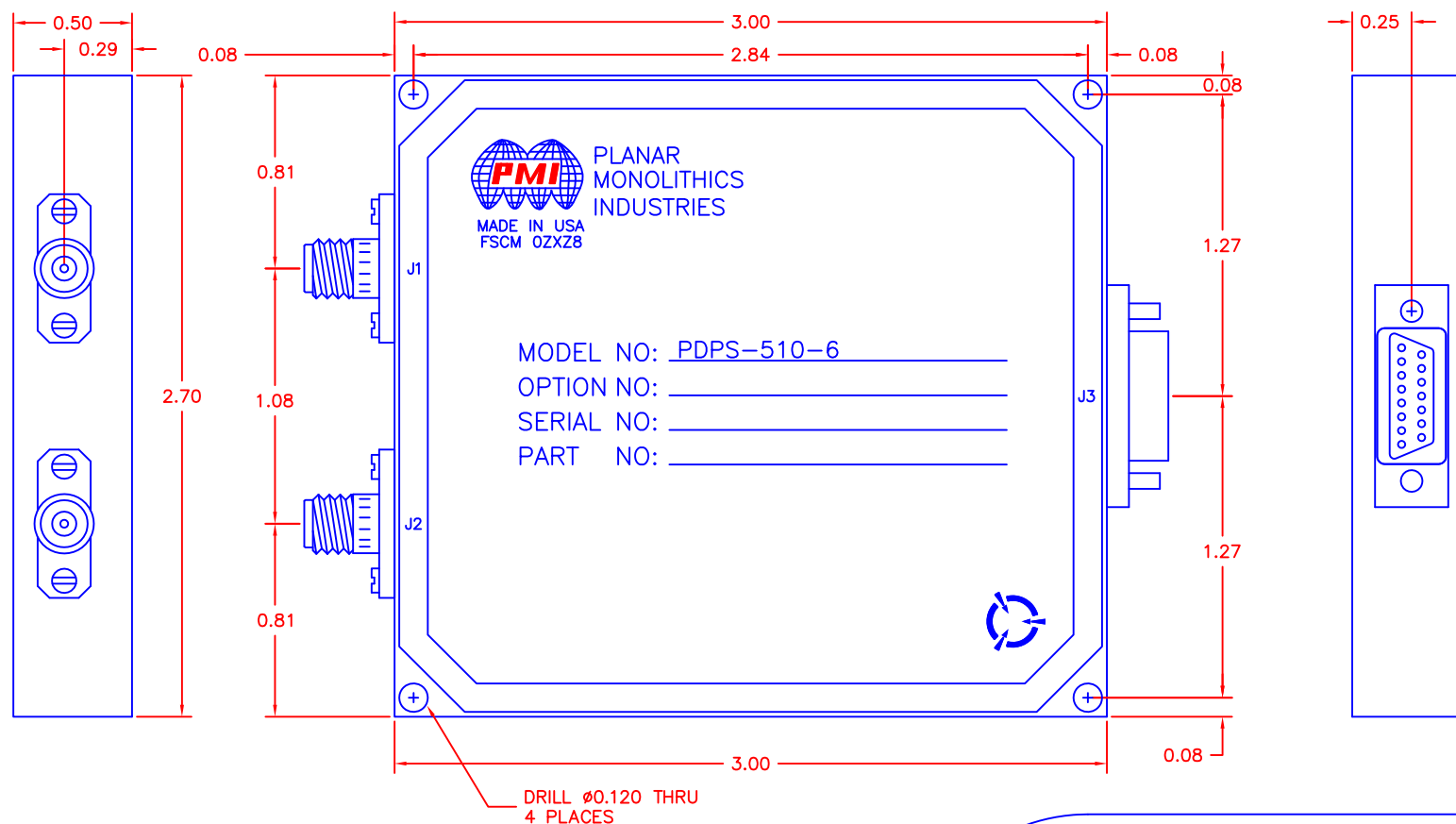
|           |          |              |              |                               |  |  |  |
|-----------|----------|--------------|--------------|-------------------------------|--|--|--|
| APPROVALS |          | DATE         |              | TITLE                         |  |  |  |
| DRAWN     |          | 05/08/07     |              | PRODUCT FEATURE               |  |  |  |
| CHECKED   |          |              |              | PDPS-510-6                    |  |  |  |
| ISSUED    |          |              |              | 5-10 GHz, 6-BIT PHASE SHIFTER |  |  |  |
| SIZE      | FSCM NO. | OWG NO.      | REV.         |                               |  |  |  |
| A         | 0ZXZ8    | 100-P000-000 | -            |                               |  |  |  |
| SCALE N:S |          |              | SHEET 1 OF 3 |                               |  |  |  |

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX  $\pm 0.020$   
X.XXX  $\pm 0.010$

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| REVISIONS |      |                  |          |
|-----------|------|------------------|----------|
| ZONE      | REV. | DESCRIPTION      | DATE     |
|           | —    | SEE ECR# P07-010 | 05/08/07 |



## MECHANICAL OUTLINE

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX  $\pm 0.020$   
X.XXX  $\pm 0.010$

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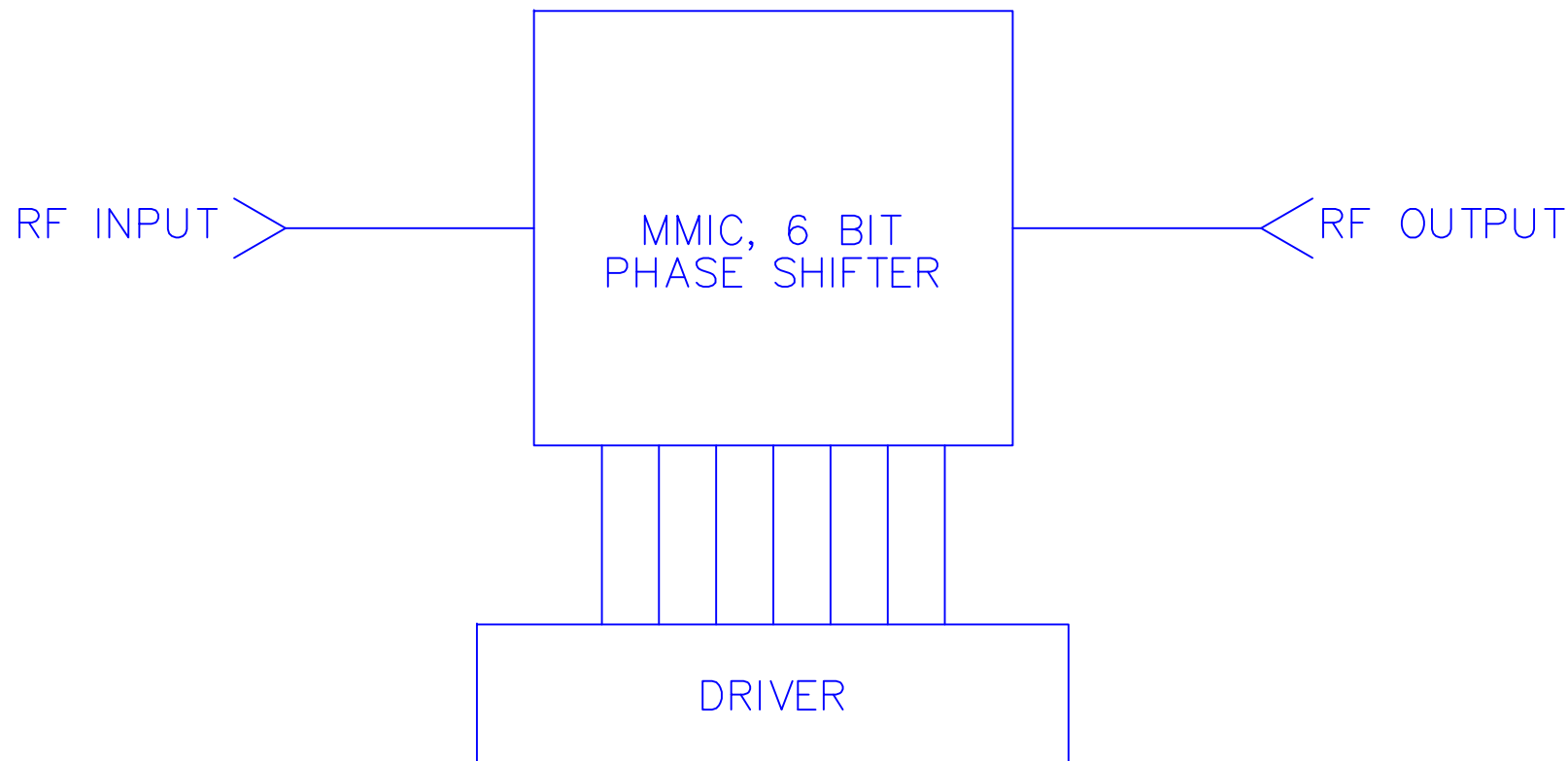
| APPROVALS |  | DATE     |  | TITLE                         |  |        |  |
|-----------|--|----------|--|-------------------------------|--|--------|--|
| DRAWN     |  | 05/08/07 |  | MECHANICAL OUTLINE            |  |        |  |
| CHECKED   |  |          |  | PDPS-510-6                    |  |        |  |
| ISSUED    |  |          |  | 5-10 GHz, 6-BIT PHASE SHIFTER |  |        |  |
| SIZE      |  | FSCM NO. |  | DWG NO.                       |  | REV.   |  |
| A         |  | 0ZXZ8    |  | 100-P000-000                  |  | —      |  |
| SCALE     |  | N:S      |  | SHEET                         |  | 2 OF 3 |  |

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| REVISIONS |      |                  |          |          |
|-----------|------|------------------|----------|----------|
| ZONE      | REV. | DESCRIPTION      | DATE     | APPROVED |
|           | —    | SEE ECR# P07-010 | 05/08/07 |          |

## FUNCTIONAL BLOCK DIAGRAM



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| APPROVALS |          | DATE         | TITLE                         |  |        |  |
|-----------|----------|--------------|-------------------------------|--|--------|--|
| DRAWN     |          | WLS          | FUNCTIONAL BLOCK DIAGRAM      |  |        |  |
| CHECKED   |          |              | PDPS-510-6                    |  |        |  |
| ISSUED    |          | 05/08/07     | 5-10 GHz, 6-BIT PHASE SHIFTER |  |        |  |
| SIZE      | FSCM NO. | OWG NO.      | REV.                          |  |        |  |
| A         | OZXZ8    | 100-P000-000 | —                             |  |        |  |
| SCALE     |          | N:S          | SHEET                         |  | 3 OF 3 |  |