

## DESCRIPTION

PMI MODEL: PIQ-6G18G-360-16-CD-1 IS A 6.0 TO 18.0 GHz HIGH PERFORMANCE I/Q VECTOR MODULATOR WITH 2 X 12 BIT MONOTONIC TTL COMPATIBLE CHANNELS (I AND Q). THIS MODEL OFFERS A FULL 360 DEGREES OF PHASE SHIFT WITH A MINIMUM OF 16 dB OF AMPLITUDE CONTROL.

## SPECIFICATIONS

- FREQUENCY RANGE: ----- 6.0 TO 18.0 GHz
- DYNAMIC RANGE: ----- 16 dB & 360°
- RF INPUT POWER: ----- +10 dBm CW, 1.0 WATT MAX
- INSERTION LOSS: ----- 16.0 dB MAX
- VSWR: ----- 2.2:1 MAX (50 OHM SYSTEM)
- ATTENUATION VS FREQUENCY: ----- ±3.5 dB TYP
- PHASE VS FREQUENCY: ----- ±20.0° TYP
- CONTROL LOGIC: ----- 2X12 BITS (I&Q), TTL COMPATIBLE
- CONTROL SLOPES: ----- LINEAR
- SWITCHING SPEED: ----- 500 ns MAX
- POWER SUPPLY: ----- ± 12V TO ±15V @ ±100mA MAX
- RF CONNECTORS: ----- SMA FEMALE INPUT AND OUTPUT
- POWER/LOGIC CONNECTIONS: ----- DC-37P, SUB MINIATURE D MULTI-PIN
- SIZE: ----- 4.25" X 3.50" X 1.00"
- FINISH: ----- NICKEL PLATED

## ENVIRONMENTAL RATINGS

- TEMPERATURE: ----- -10 °C TO +60 °C (OPERATING)  
-65 °C TO +125 °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

**PMI CONFIDENTIAL AND PROPRIETARY**

| REVISIONS |      |             |          |          |
|-----------|------|-------------|----------|----------|
| ZONE      | REV. | DESCRIPTION | DATE     | APPROVED |
|           | -    | PRELIMINARY | 11/28/18 |          |
|           |      |             |          |          |
|           |      |             |          |          |

## 37-PIN CONNECTOR PIN-OUT

| PIN | FUNCTION     | PIN | FUNCTION   |
|-----|--------------|-----|------------|
| 1   | I-5          | 20  | I-4        |
| 2   | I-6          | 21  | I-7        |
| 3   | I-8          | 22  | I-3        |
| 4   | I-9          | 23  | I-2        |
| 5   | I-10         | 24  | I-1        |
| 6   | I-11         | 25  | I-12 (LSB) |
| 7   | NC           | 26  | NC         |
| 8   | +12V TO +15V | 27  | NC         |
| 9   | GND          | 28  | GND        |
| 10  | GND          | 29  | NC         |
| 11  | -12V TO -15V | 30  | NC         |
| 12  | Q-3          | 31  | NC         |
| 13  | Q-2          | 32  | Q-4        |
| 14  | Q-1 (LSB)    | 33  | NC         |
| 15  | Q-5          | 34  | NC         |
| 16  | Q-6          | 35  | Q-12       |
| 17  | Q-7          | 36  | Q-11       |
| 18  | Q-8          | 37  | Q-10       |
| 19  | Q-9          |     |            |

## PLANAR MONOLITHICS INDUSTRIES, INC.

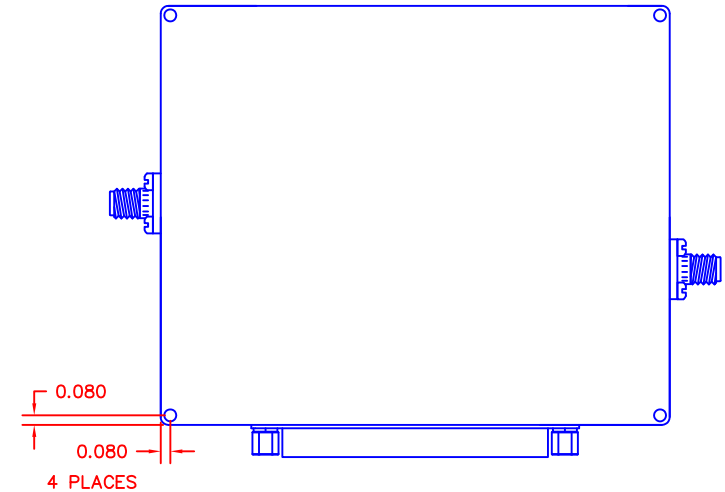
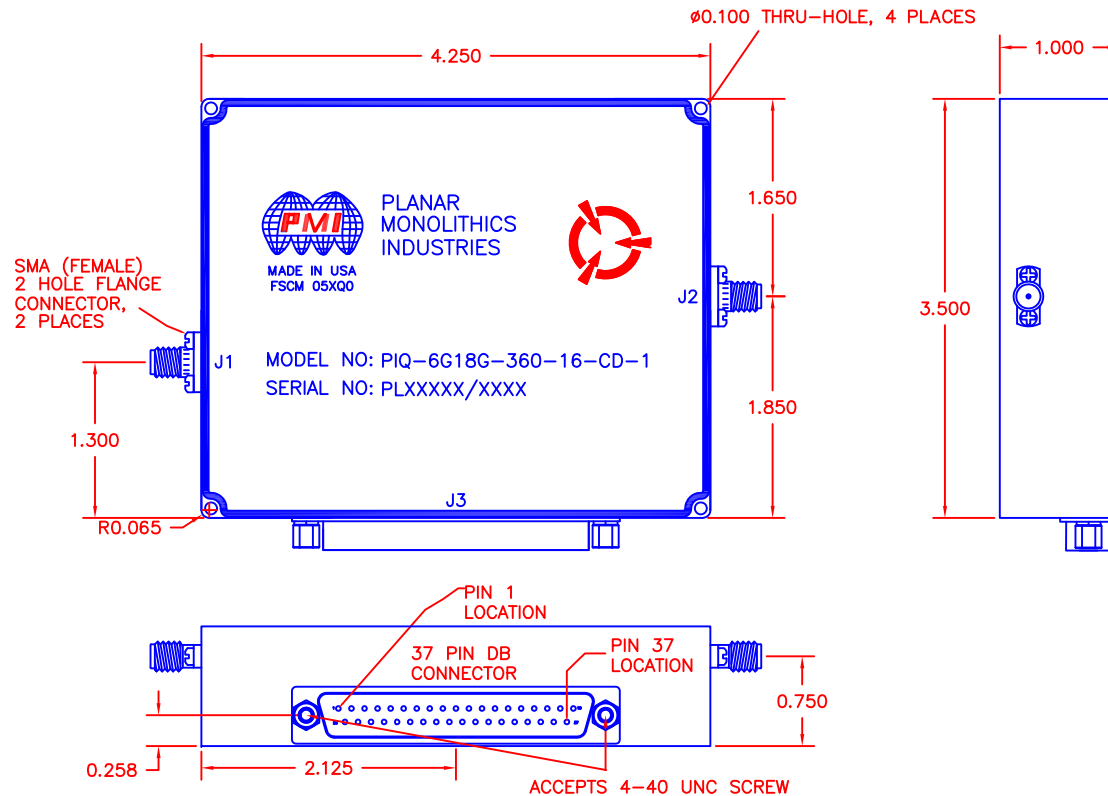
7311-F GROVE ROAD  
FREDERICK, MARYLAND 21704 USA  
TEL: (301)-662-5019, FAX: (301)-662-1731  
WEB: [www.pmi-rf.com](http://www.pmi-rf.com), EMAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
ISO 9001 CERTIFIED



| APPROVALS                 |  | DATE     |  | TITLE                                    |                   |                        |                 |
|---------------------------|--|----------|--|------------------------------------------|-------------------|------------------------|-----------------|
| DRAWN<br><i>B. Thomas</i> |  | 7/18/18  |  | PRODUCT FEATURE<br>PIQ-6G18G-360-16-CD-1 |                   |                        |                 |
| REDRAWN<br><i>EW</i>      |  | 11/28/18 |  | SIZE<br>A                                | FSCM NO.<br>05XQ0 | DWG NO.<br>PRELIMINARY | REV.<br>-       |
| ISSUED                    |  |          |  | SCALE<br>N:S                             |                   |                        | SHEET<br>1 OF 2 |

# MECHANICAL OUTLINE

| REVISIONS |      |             |          |          |
|-----------|------|-------------|----------|----------|
| ZONE      | REV. | DESCRIPTION | DATE     | APPROVED |
|           | -    | PRELIMINARY | 11/28/18 |          |
|           |      |             |          |          |
|           |      |             |          |          |



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ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX ±0.020  
X.XXX ±0.010

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| ISSUED                    |  |          | SCALE<br>N:S                             | SHEET<br>2 OF 2   |                        |           |