

DESCRIPTION:

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER PS-618-45-12B-SFF OPT1518 IS A DIGITALLY TUNED PHASE SHIFTER OPTIMIZED OVER THE 15 TO 18 GHz FREQUENCY RANGE FOR A FINE TUNING RANGE OF 45 DEGREES. THIS UNIT IS TUNED USING TWELVE TTL CONTROL BITS.

| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|------|------|-------------|------------|----------|
| | 1 | PRELIMINARY | 11/29/2022 | |

SPECIFICATIONS:

- FREQUENCY:..... 6 TO 18 GHz, OPTIMIZED FOR 15 TO 18 GHz
- VSWR (J1 AND J2):..... 2:1 MAX
- INPUT P1dB POWER LEVEL:..... +10 dBm MIN
- SURVIVAL INPUT POWER LEVEL:..... +20 dBm MAX
- INSERTION LOSS:..... 15 dB MAX

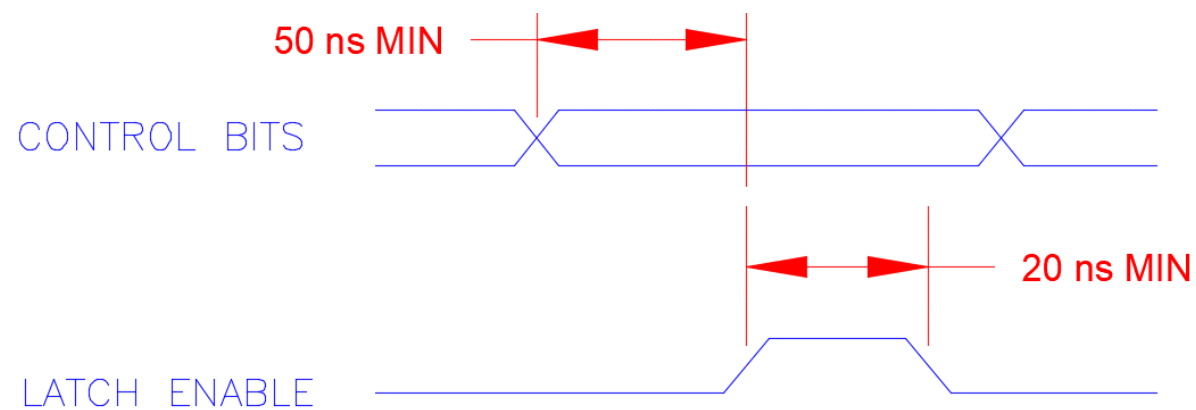
- SWITCHING SPEED:..... 500 ns MAX
- PHASE SHIFT RANGE:..... 45° NOMINAL (45° - 1 LSB)
- PHASE SHIFT ACCURACY:..... ± 3° TYP, ± 7.5° MAX

- DIGITAL CONTROL BITS:..... 12 BITS* (CALIBRATED TO 12 BITS, MEASURED TO AT LEAST 11 BIT RESOLUTION)
- CONTROL LOGIC:..... TTL

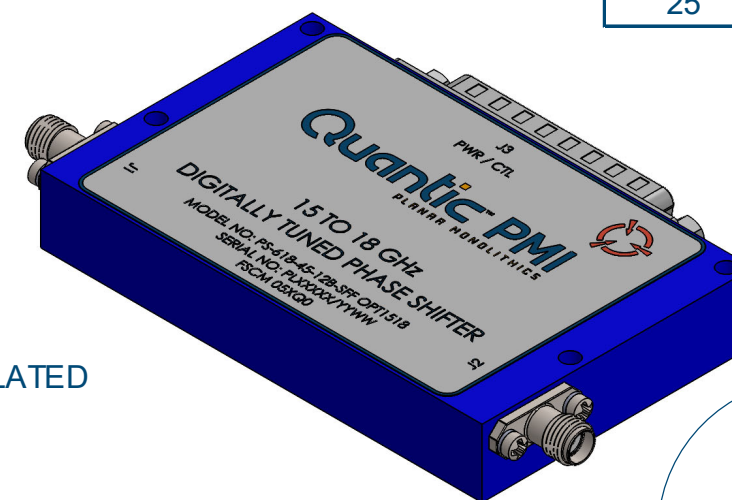
- LATCH CONTROL LOGIC:..... TTL

| J3 25-PIN CONNECTOR PIN-OUT | | |
|--------------------------------|----------------|-------------------------|
| PIN | FUNCTION | VALUE |
| 1 | N/C | |
| 2 | N/C | |
| 3 | CONTROL BIT 0 | (0.010986328125°) - LSB |
| 4 | CONTROL BIT 1 | (0.02197265625°) |
| 5 | CONTROL BIT 2 | (0.0439453125°) |
| 6 | CONTROL BIT 3 | (0.087890625°) |
| 7 | CONTROL BIT 4 | (0.17578125°) |
| 8 | CONTROL BIT 5 | (0.3515625°) |
| 9 | CONTROL BIT 6 | (0.703125°) |
| 10 | CONTROL BIT 7 | (1.40625°) |
| 11 | CONTROL BIT 8 | (2.8125°) |
| 12 | CONTROL BIT 9 | (5.625°) |
| 13 | CONTROL BIT 10 | (11.25°) |
| 14 | CONTROL BIT 11 | (22.5°) - MSB |
| 15 | N/C | |
| 16 | N/C | |
| 17 | N/C | |
| 18 | LATCH ENABLE | |
| 19 | GND | |
| 20 | +V | |
| 21 | +V | |
| 22 | GND | |
| 23 | -V | |
| 24 | -V | |
| 25 | GND | |

LATCH TIMING DIAGRAM:



- POWER SUPPLY:..... +15 V @ 250 mA MAX
-15 V @ 100 mA MAX
- RF CONNECTORS:..... SMA (F)
- POWER / CONTROL CONNECTOR:..... 25 PIN D-SUB (M)
- FINISH:..... PAINTED BLUE, MOUNTING SURFACE GOLD PLATED



ENVIRONMENTAL RATINGS:

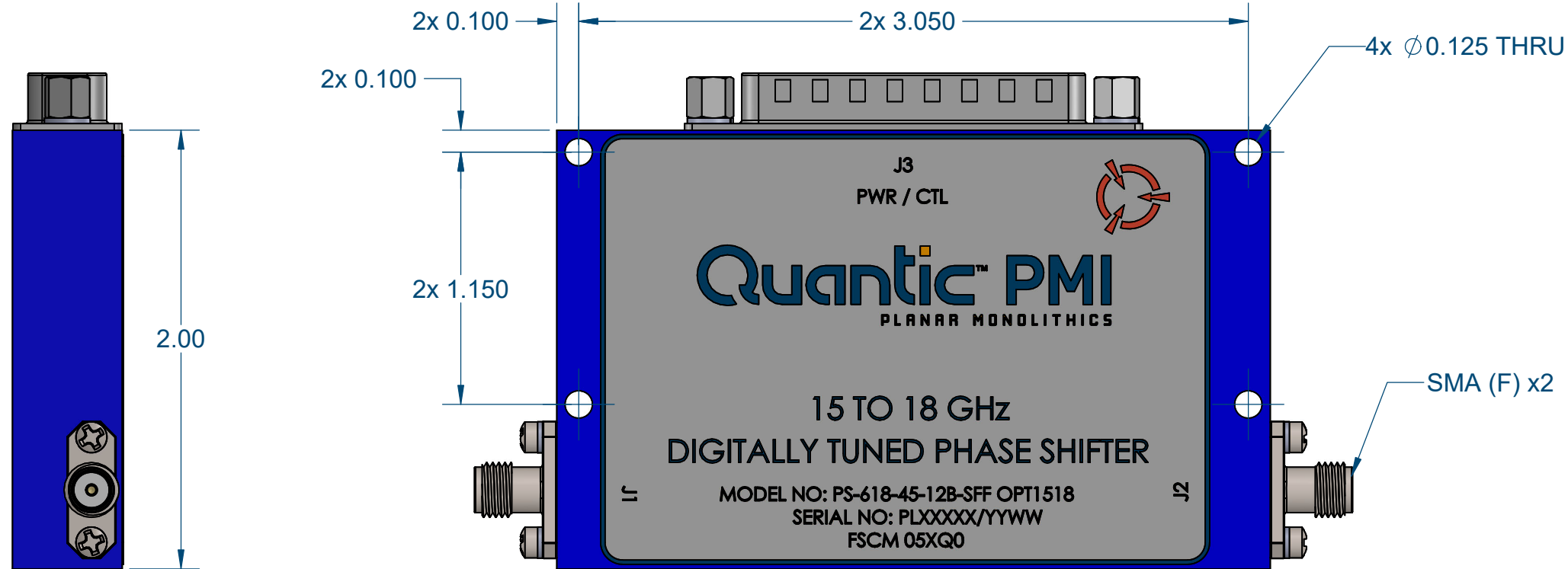
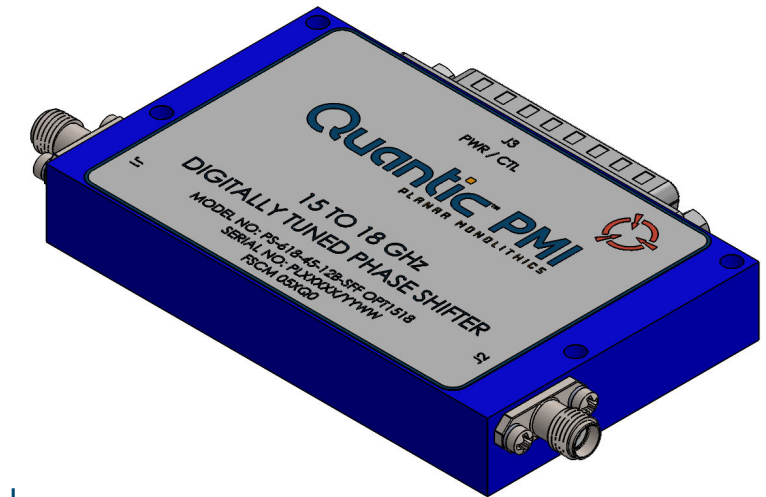
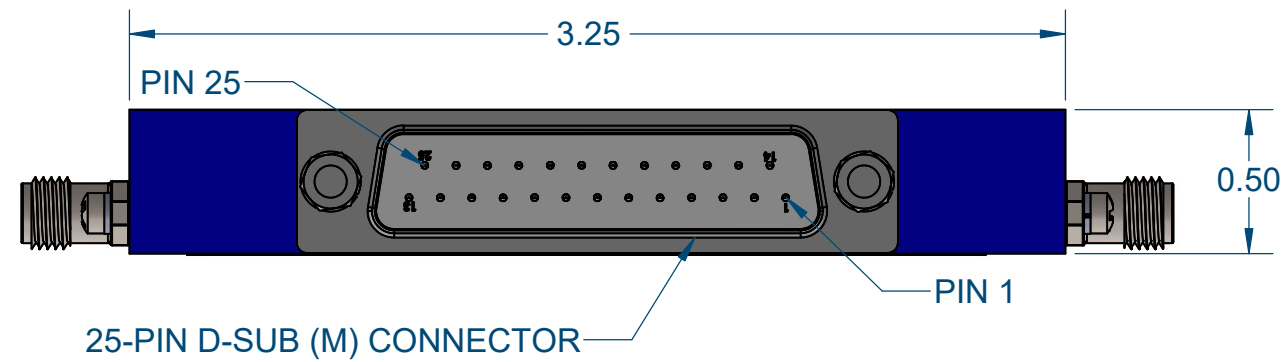
- TEMPERATURE:..... 10°C TO +30°C (OPERATING)
-40°C TO +85°C (STORAGE)

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

PMI CONFIDENTIAL AND PROPRIETARY

| | | | | | | | | |
|---|--|--------------------|--|--|-----------|-------------------|------------------------|-----------|
| APPROVALS DRAWN D. DURBIN REDRAWN ISSUED | | DATE 11/29/2022 | TITLE DIGITALLY TUNED PHASE SHIFTER PS-618-45-12B-SFF OPT1518 | | SIZE B | FSCM NO. 05XQ0 | DWG NO. PRELIMINARY | REV. 1 |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± 0.02 ± .XXX ± 0.01 | | | 7309-A GROVE ROAD FREDERICK MARYLAND 21704 USA TEL: (301) 662-5019, FAX: (301) 662-1731 WEB: WWW.PMI-RF.COM, EMAIL: SALES@PMI-RF.COM ISO 9001 CERTIFIED | | SCALE 1:1 | | SHEET 1 OF 2 | |

| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|------|------|-------------|------------|----------|
| | 1 | PRELIMINARY | 11/29/2022 | |
| | | | | |
| | | | | |



PMI CONFIDENTIAL AND PROPRIETARY

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

| | | | | | |
|---|--|---|---------------------------------------|---|--|
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± 0.02 ± .XXX ± 0.01 | | APPROVALS DATE DRAWN D. DURBIN 11/29/2022 REDRAWN ISSUED | | TITLE DIGITALLY TUNED PHASE SHIFTER PS-618-45-12B-SFF OPT1518 | |
| | | SIZE B SCALE 1.5:1 | FSCM NO. 05XQ0 DWG NO. PRELIMINARY | REV. 1 SHEET 2 OF 2 | |

Quantic PMI
 PLANAR MONOLITHICS

7309-A GROVE ROAD FREDERICK MARYLAND 21704 USA
 TEL: (301) 662-5019, FAX: (301) 662-1731
 WEB: WWW.PMI-RF.COM, EMAIL: SALES@PMI-RF.COM
 ISO 9001 CERTIFIED