

## DESCRIPTION

PMI MODEL NUMBER PS-500M2G-10B-SFF-MIL-SM IS A 0.5 TO 2GHz DIGITALLY CONTROLLED ANALOG PHASE SHIFTER WITH CAPABILITY FOR PHASE SHIFTING FROM 0° TO 360°. THE UNIT CONSISTS OF AN ANALOG PHASE SHIFTER AND A DIGITAL-TO-ANALOG CONVERTER (EXTERNAL LATCH/STRB) WITH TEN LOGIC INPUT LINES ALLOW 1024 DISCRETE VALUES OF PHASE.

## SPECIFICATIONS @+25°C

- FREQUENCY RANGE: 0.5 TO 2 GHz
- CONTROL 10 BIT TTL\*\*
- INSERTION LOSS 13dB MAX
- PHASE SHIFT 360° TYP
- AMPLITUDE ERROR ±1.0 dB MAX.
- PHASE SHIFT ERROR ±5° MAX.
- SWITCHING SPEED 500 ns MAX.
- SPURIOUS -60dBc MAX.
- POWER SUPPLY
  - +V: +15V @ 250 mA TYP., 300 mA MAX.
  - V: -15V @ 20 mA TYP., 100 mA MAX.
- SIZE: 3.25" X 3.25" X 0.84"
- WEIGHT: 10 oz MAX.
- CONNECTORS(RF) SMA FEMALE
- CONNECTOR (CONTROL) 15 PIN SUBMINIATURE D (MALE) – MATE SUPPLIED
- FINISH BLUE EPOXY POLIMIDE COATING IAW MIL-C-22750, TYPE I OVER EPOXY POLIMIDE PRIMER IAW MIL-P-23377 TYPE I, CLASS 1 OR 3.

\*\* Device uses external latch/strb. Latch is triggered on the rising edge and reset on the falling edge before able to process next digital word. Reference state is all bits low '0'. Control Lines have an internal pull-down resistor.

## ENVIRONMENTAL RATINGS

- **TEMPERATURE:** -20°C TO +85°C (OPERATING)  
-40°C TO +85°C (STORAGE)
- **HUMIDITY:** MIL-HDBK-5400 4.6.2.4 NOTE: Operating Relative Humidity: 90% max. with non-condensation. \*\*Condensation control is implemented by the system.
- **SHOCK:** MIL-HDBK-5400 4.6.2.6  
Only, Sawtooth wave 20G, 11ms (MIL-STD-810 method 516.5 procedure I )  
Altitude : MIL-HDBK-5400 CLASS1 Note: Upper limit of Altitude shall be 10,500ft.
- **VIBRATION:** MIL-HDBK-5400 4.6.2.5 Only, JET AIRCRAFT  
Functional test:  $W1=0.04G^2/Hz$ ,  $W2=0.03G^2/Hz$ ,  
Overall=6.86Grms: 0.5Hr x 2times x 3directions  
Endurance test:  $W1=0.04G^2/Hz$ ,  $W2=0.166G^2/Hz$ ,  
Overall=15.07Grms: 3Hr x 3directions."

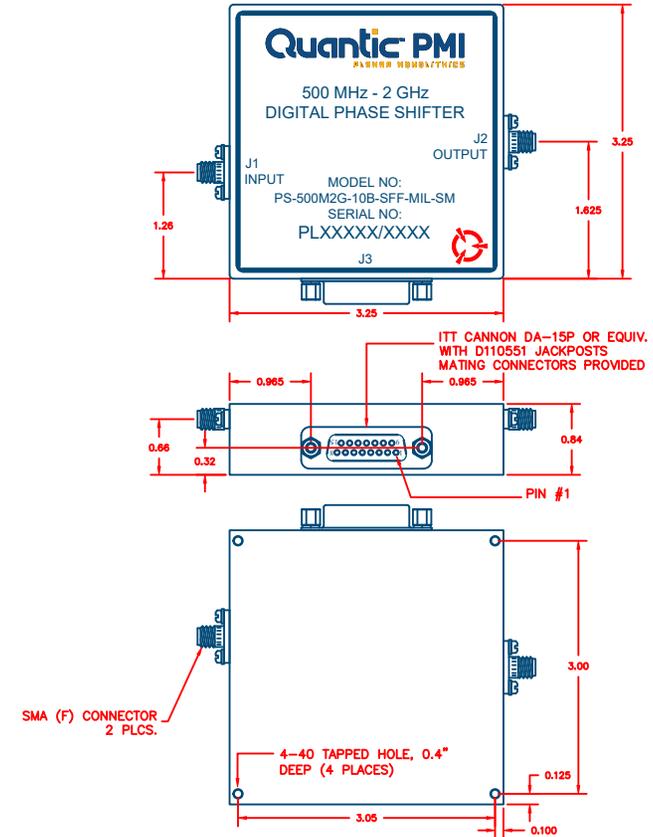
NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



ELECTRICAL CONNECTOR PIN ASSIGNMENTS	
PIN	FUNCTION
1	-VDC
2	+VDC
3	LATCH/STRB
4	1.4°
5	5.6°
6	45°
7	180.0° (MSB)
8	90°
9	GND
10	N/C
11	22.5°
12	2.8°
13	11.3°
14	0.7°
15	0.35° (LSB)

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

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	01/26/23	
	A2	ECN # 23-0090	5/8/23	
	A3	ECN # 25-0313	12/18/25	



7311-A GROVE ROAD  
FREDERICK, MARYLAND 21704 USA  
TEL: (301)-662-5019, FAX: (301)-662-1731  
WEB: www.quanticipmi.com  
EMAIL: sales@quanticipmi.com  
ISO 9001 CERTIFIED

**Quantic PMI**  
ANALOG MONOLITHICS

APPROVALS		DATE	TITLE		
DRAWN	R. SIRK	01/26/23	PRODUCT FEATURE PS-500M2G-10B-SFF-MIL-SM		
REDRAWN			SIZE	FSCM NO.	DWG NO.
ISSUED			A	05XQ0	27045660
			SCALE	N:S	SHEET 1 OF 1
					REV. A3