

DESCRIPTION

PMI MODEL PS-100M20G-10B-SFF-MIL-SM IS A 0.1 TO 20 GHz 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

- FREQUENCY RANGE: _____ 0.1 TO 20 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.
 - V: _____ -15V @ 20 mA TYP.
- 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."

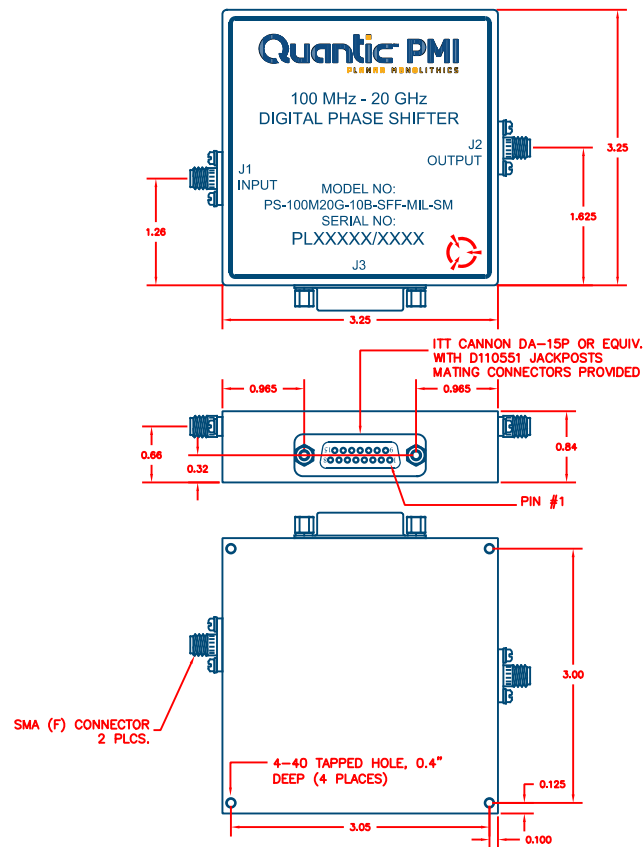
NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
 NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



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
	-	PRELIMINARY	07/17/25	



7309-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
 PLANAR MONOLITHICS

APPROVALS		DATE	TITLE		
DRAWN AG		07/17/25	PRODUCT FEATURE PS-100M20G-10B-SFF-MIL-SM		
REDRAWN			SIZE A	FSCM NO. 05XQ0	DWG NO. PRELIMINARY
ISSUED			SCALE N:S		REV. -
				SHEET	1 OF 1