

**TYPICAL CHARACTERISTICS
ON
PDC-7G12D4G-10-3KW-SMF**

PMI MODEL NO: PDC-7G12D4G-10-3KW-SMF IS A 7 GHz TO 12.4 GHz DIRECTIONAL COUPLER. IT HAS A MINIMUM DIRECTIVITY OF 17 dB, AND A MAXIMUM INSERTION LOSS OF 0.4 dB. IT IS OUTFITTED WITH AN SMA MALE CONNECTOR FOR THE INPUT PORT, AND SMA FEMALE CONNECTORS FOR THE OUTPUT AND COUPLED PORT.



**TESTED AND REPORTED BY: V. PRATAP
DATE: 9/10/2025**

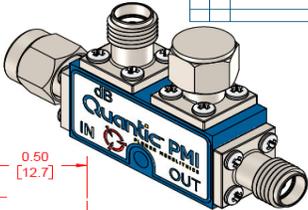
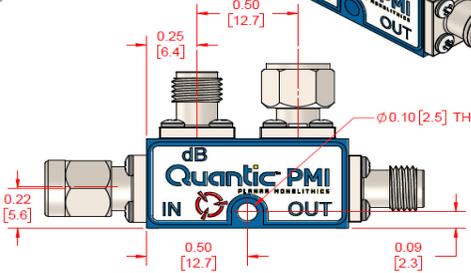
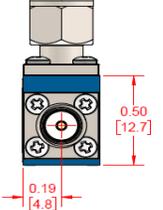
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PRODUCT FEATURE

DESCRIPTION:	ECONO	REV.	DESCRIPTION	DATE	APPROVED
PMI MODEL NO. PDC-7G12D4G-10-3KW-SMF IS A 7 GHz TO 12.4 GHz DIRECTIONAL COUPLER. IT HAS A MINIMUM DIRECTIVITY OF 17 dB, AND A MAXIMUM INSERTION LOSS OF 0.4 dB. IT IS OUTFITTED WITH AN SMA MALE CONNECTOR FOR INPUT PORT, AND SMA FEMALE CONNECTORS FOR OUTPUT AND COUPLED PORT.	A1		ORIGINAL RELEASE	10/2008	

SPECIFICATIONS:	PARAMETER
• FREQUENCY RANGE:	7.0 TO 12.4 GHz
• COUPLING INCLUDING FREQUENCY SENSITIVITY:	10±1.25 dB
• DIRECTIVITY:	17 dB MINIMUM
• INSERTION LOSS:	0.4 dB MAXIMUM (THEORETICAL COUPLING LOSS OF 0.458 REMOVED FROM INSERTION LOSS)
• VSWR (PRIMARY LINE):	1.30:1 MAXIMUM
• VSWR (SECONDARY LINE):	1.30:1 MAXIMUM
• POWER INPUT:	AVERAGE: 50 W PEAK: 3 kW MAXIMUM 1 µsec PULSE WIDTH 0.1% DUTY CYCLE AVERAGE REF: 10 W
• CONNECTORS:	INPUT: SMA MALE OUTPUT: SMA FEMALE COUPLED PORT: SMA FEMALE
• SIZE:	1.00" X 0.51" X 0.38"
• FINISH:	PAINTED BLUE

ENVIRONMENTAL RATINGS:	PARAMETER
• TEMPERATURE:	0°C TO +65°C (OPERATING) -40°C TO +70°C (STORAGE)
• HUMIDITY:	UP TO 95% RELATIVE HUMIDITY WITH CONDENSATION
• SHOCK:	50 G'S PEAK HALF-SINEWAVE 6 mSEC DURATION VELOCITY CHANGE OF 9.2 FT PER SEC
• VIBRATION:	4-15 Hz @ 0.110 ± 0.006 in. AMPLITUDE (1.26 G'S PEAK)* 16-33 Hz @ 0.080 ± 0.004 in. AMPLITUDE (4.4 G'S PEAK)* 34-40 Hz @ 0.005 ± 0.001 in. AMPLITUDE (0.8 G'S PEAK)* 41-50 Hz @ 0.003 ± 0.0007 in. AMPLITUDE (0.75 G'S PEAK)* *IN THREE MUTUALLY PERPENDICULAR DIRECTIONS OVER A MINIMUM OF TWO HOURS


APPROVALS		DATE	TITLE	OUTLINE
DESIGNED	VP	7/10/08	PDC-7G12D4G-10-3KW-SMF	OUTLINE
ISSUED				
DATE				

Quantic PMI PLANAR MONOLITHICS			
7309-A GROVE ROAD FREDERICK, MD 21704 USA PHONE: (301)662-5019 FAX: (301)662-1731 WWW.QUANTICPMI.COM			
PDC-7G12D4G-10-3KW-SMF	REV. NO.	27051920	A1
SCALE 5:2			SHEET 1 OF 1

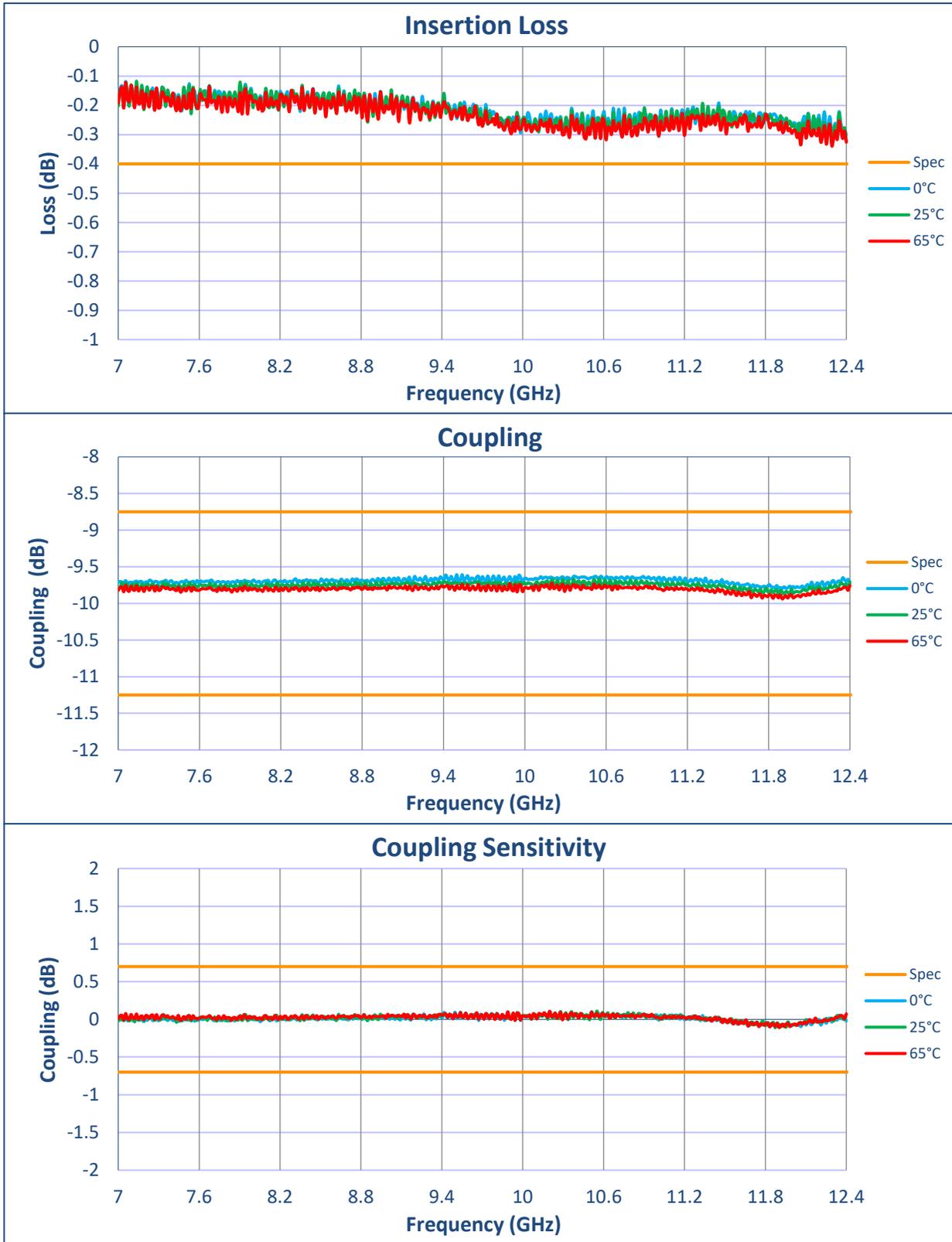
NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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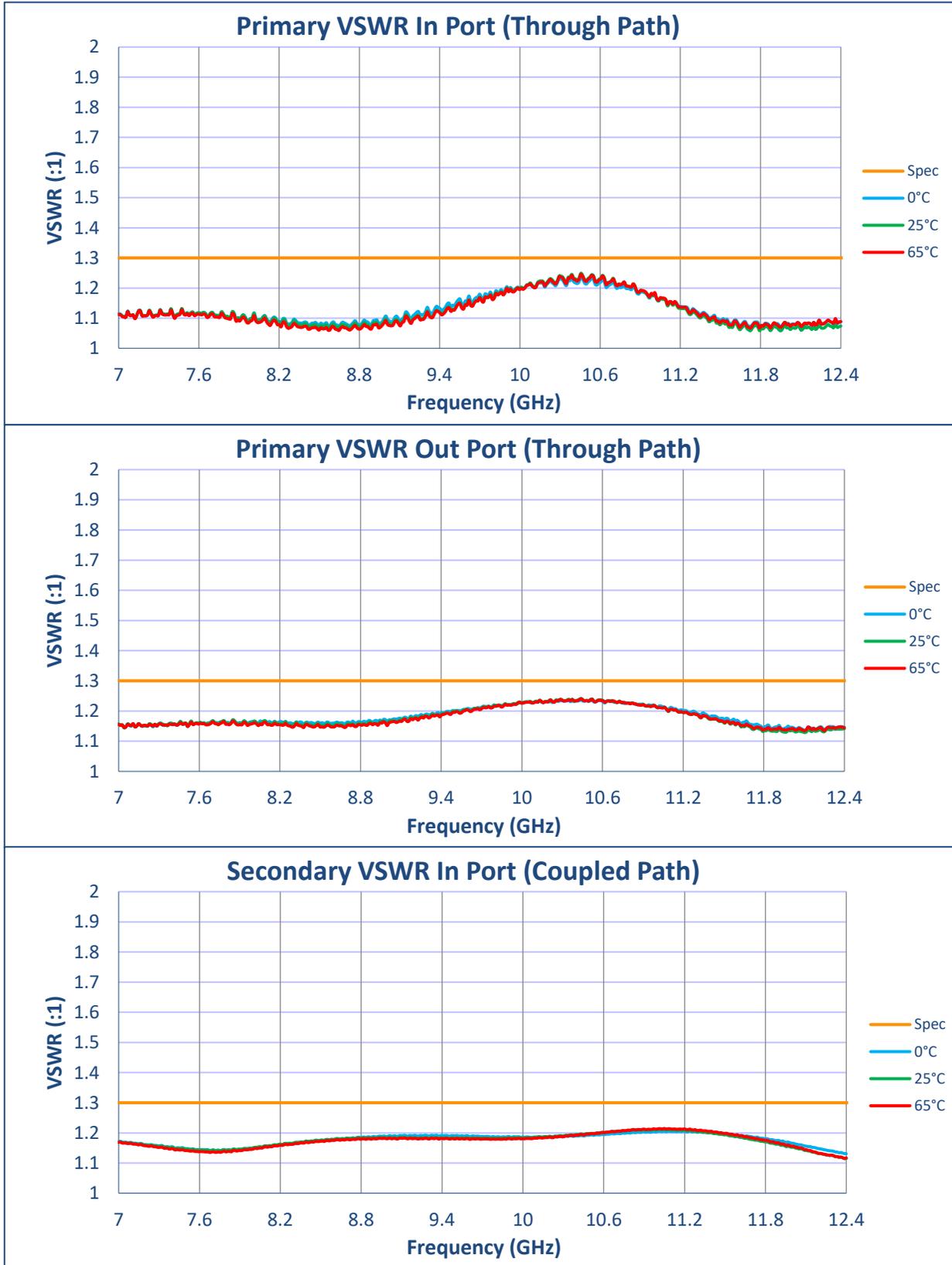
TECHNICAL SPECIFICATIONS

TEST ITEM NO:	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE		
			0°C	+25°C	65°C
1	Frequency Range	7 GHz To 12.4 GHz	7 GHz To 12.4 GHz	7 GHz To 12.4 GHz	7 GHz To 12.4 GHz
2	Coupling (Including Frequency Sensitivity)	10 ±1.25 dB	9.61 dB to 9.8 dB	9.66 dB to 9.88 dB	9.72 dB to 9.94 dB
3	Directivity	17 dB Min	19.5 dB	19.7 dB	20 dB
4	Insertion Loss (Theoretical Coupling Loss of 0.458 Removed from Insertion Loss)	0.4 dB Max	0.3 dB	0.3 dB	0.3 dB
5	VSWR	Primary 1.30:1 Max Secondary 1.30:1 Max	1.24:1 Primary 1.26:1 Secondary	1.25:1 Primary 1.25:1 Secondary	1.25:1 Primary 1.26:1 Secondary
6	Power Input	Average: 50 W Peak: 3 kW Max 1 µsec Pulse Width 0.1% Duty Cycle Average Ref: 10 W	Tested: 50 W CW By Design: 3 kW Peak	Tested: 50 W CW By Design: 3 kW Peak	Tested: 50 W CW By Design: 3 kW Peak

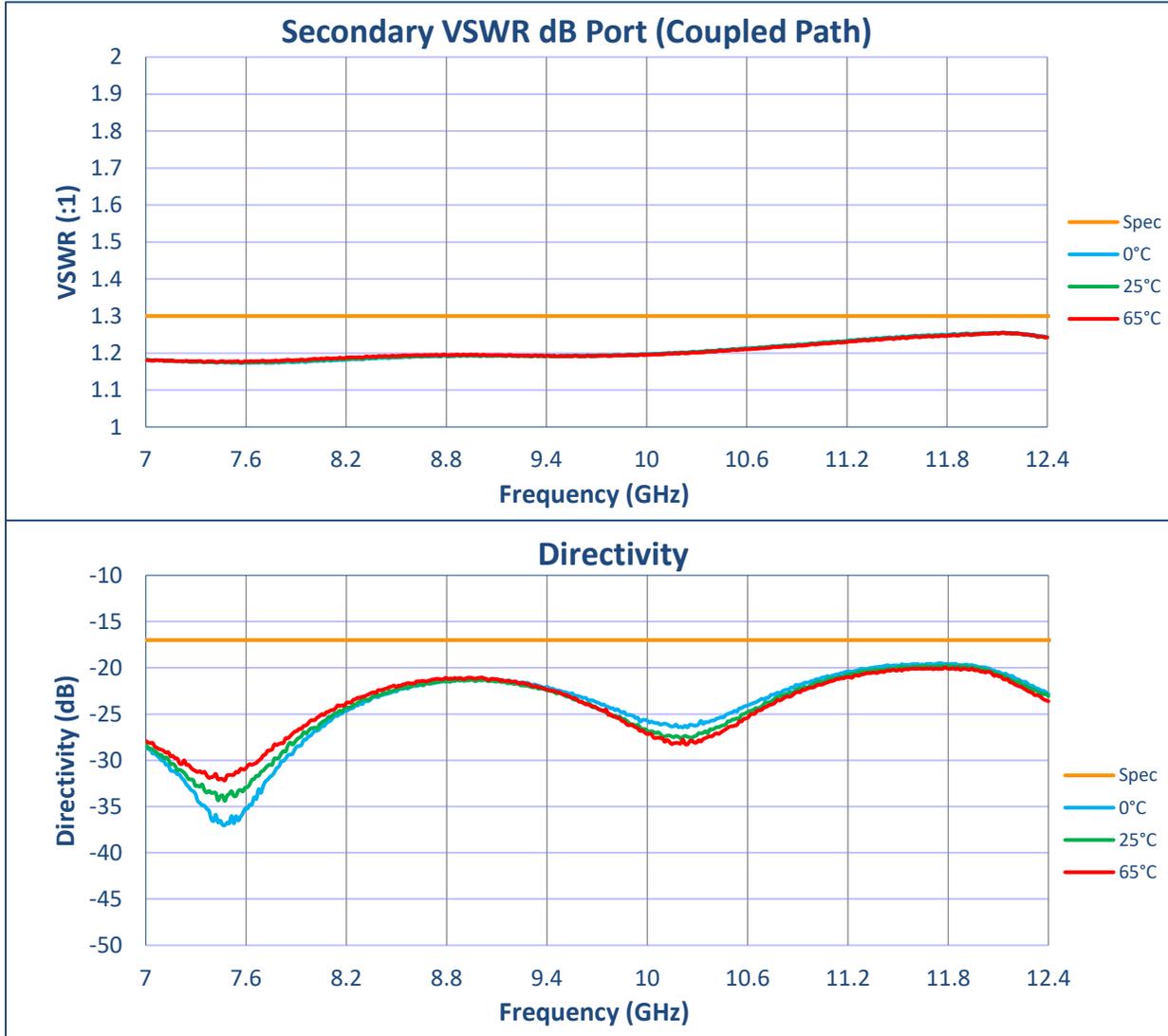
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