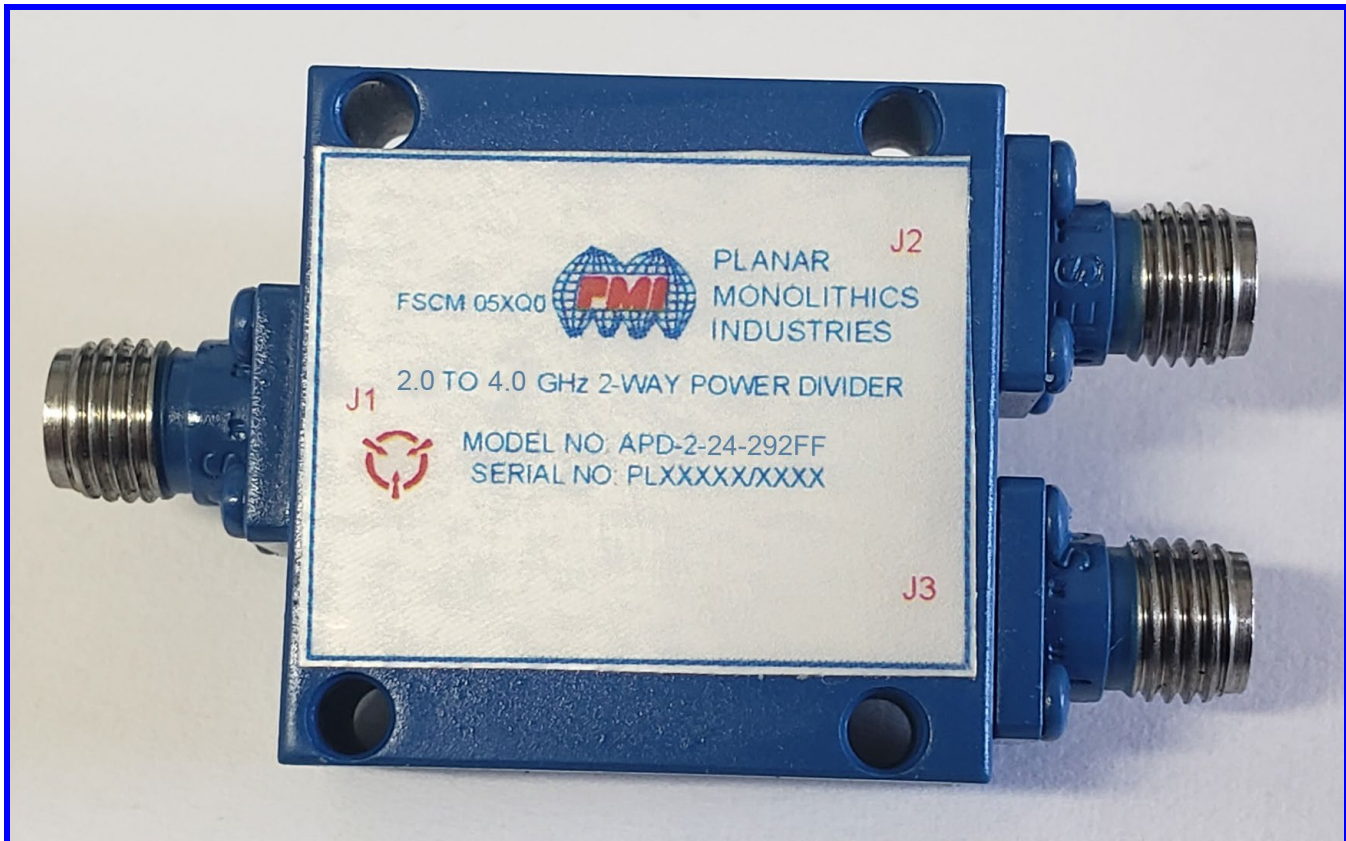




**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

**PMI MODEL: APD-2-24-292FF IS A TWO WAY POWER DIVIDER OPERATING OVER THE 2.0 TO 4.0 GHz FREQUENCY RANGE. THIS MODEL HAS A MAXIMUM INSERTION LOSS OF 1.0 dB FROM 2.0 TO 4.0 GHz. THE COMPACT 1.00" x 1.00" x 0.40" HOUSING IS OUTFITTED WITH 2.92 mm FEMALE CONNECTORS.**



**April 15, 2020**

**Designed By: Dr. Shen, Garrett Radtke, Dr.Ash(Ashok) Gorwara**

**Tested By:  
Garrett Radtke**

**Reported By:  
Garrett Radtke**

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**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

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**TYPICAL CHARACTERISTICS  
ON  
APD-2-24-292FF**

**OUTLINE**

**DESCRIPTION**

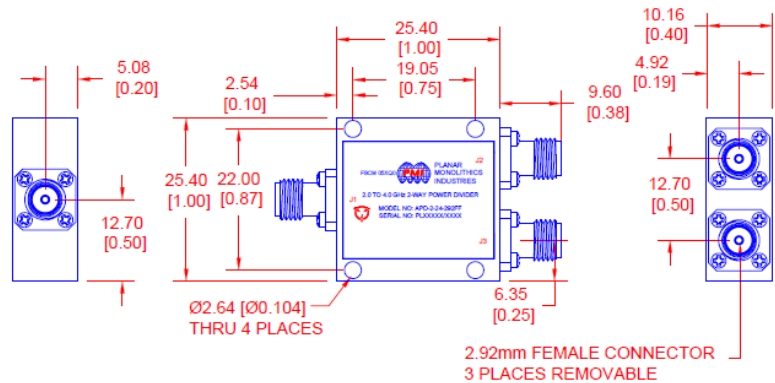
PMI MODEL: APD-2-24-292FF IS A TWO WAY POWER DIVIDER OPERATING OVER THE 2.0 TO 4.0 GHz FREQUENCY RANGE. THIS MODEL HAS A MAXIMUM INSERTION LOSS OF 1.0 dB AND HAS VERY GOOD PHASE AND AMPLITUDE MATCH. THE COMPACT 1.00" x 1.00" x 0.40" HOUSING IS OUTFITTED WITH 2.92 mm FEMALE CONNECTORS.

**SPECIFICATIONS**

- FREQUENCY RANGE: — 2.0 TO 4.0 GHz
- INSERTION LOSS: — 1.0 dB MAXIMUM
- VSWR: — 1.7:1 MAXIMUM
- ISOLATION: — 20 dB TYPICAL  
14 dB MINIMUM
- AMPLITUDE BALANCE: — ±0.1 dB TYPICAL  
±0.2 dB MAXIMUM
- PHASE BALANCE: — ±0.75° TYPICAL  
±1.5° MAXIMUM
- REVERSE POWER HANDLING: — 1 WATT MINIMUM
- CONNECTORS: — 2.92 mm FEMALE REMOVABLE
- SIZE: — 25.4 mm x 25.4 mm x 10.16 mm  
[1.00" x 1.00" x 0.40"]  
EXCLUDING CONNECTORS
- FINISH: — PAINTED BLUE WITH HERMETIC SEALING OPTION AVAILABLE

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	04/15/20	

**MECHANICAL OUTLINE**



ALL DIMENSIONS ARE IN mm [INCH]  
TOLERANCES:  
X.XX ± 0.508 [0.020]  
X.XXX ± 0.254 [0.010]

**ENVIRONMENTAL RATINGS**

- TEMPERATURE: — -55 °C TO +85 °C (OPERATING)  
-65 °C TO +125 °C (STORAGE)
- HUMIDITY: — MIL-STD-202, METHOD 103B COND. B
- SHOCK: — MIL-STD-202, METHOD 213B COND. B
- VIBRATION: — MIL-STD-202, METHOD 204D COND. B
- ALTITUDE: — MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE: — MIL-STD-202, 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**

**PLANAR MONOLITHICS INDUSTRIES, INC.**

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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: <i>SJR</i>		04/15/20	PRODUCT FEATURE APD-2-24-292FF 2.0 to 4.0 GHz TWO WAY POWER DIVIDER	
CHECKED:			SIZE: A	REV: A1
ISSUED:			FSCM NO: 05XQ0	DWG NO: 27038560
			SCALE: N/S	SHEET: 1 OF 1



**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

**TEST RESULTS**

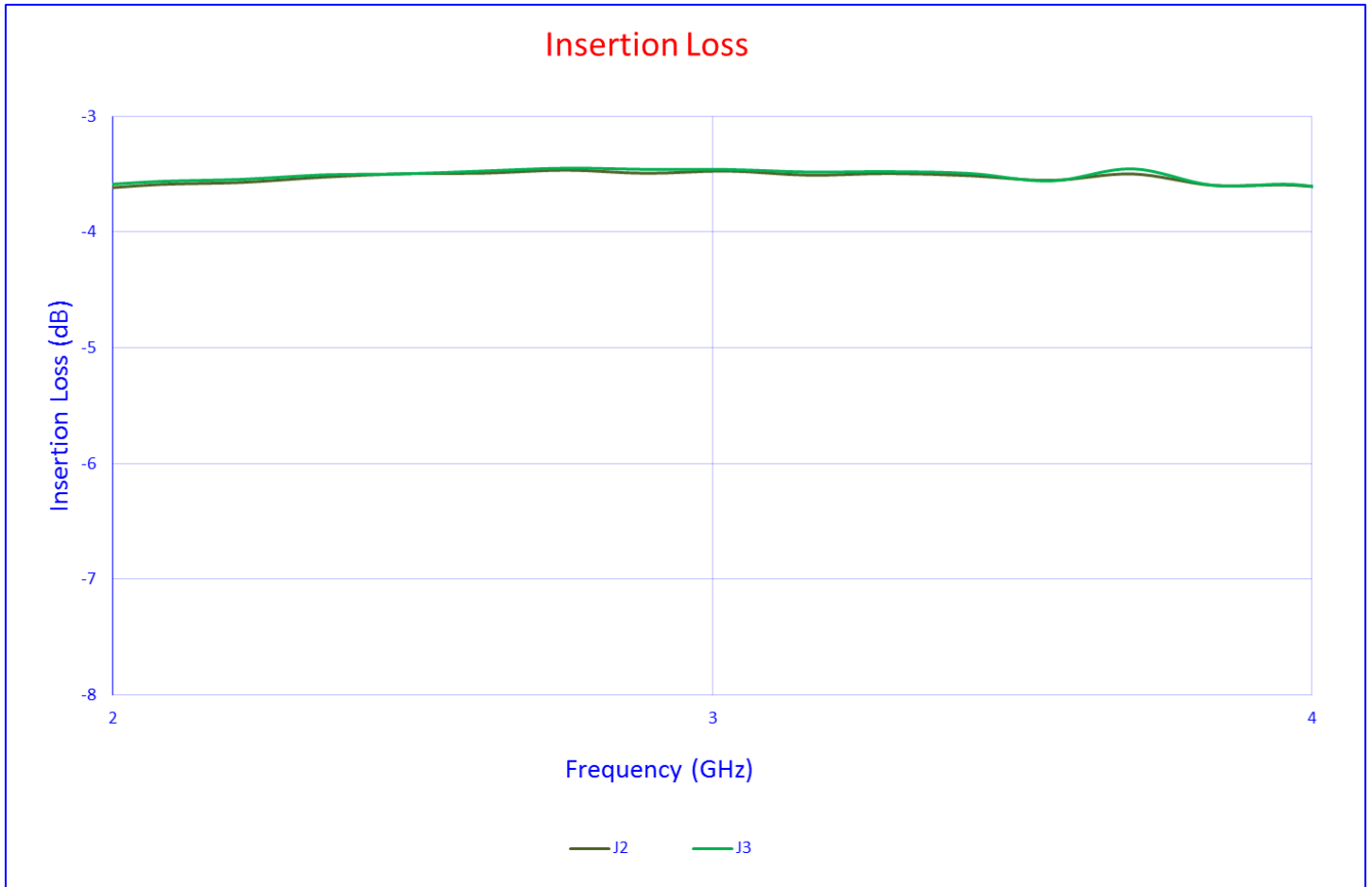
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	ENVIRONMENTAL PARAMETERS	TEST RESULTS
1	Frequency Range:	2.0 GHz – 4.0 GHz See Plots	+25°C	2.0 GHz – 4.0 GHz
2	Insertion Loss	1.0 dB MAX. See Plots	+25°C	0.68 dB
			-55°C	0.66 dB
			+85°C	0.69 dB
3	Isolation	20 dB TYP. 14 dB MIN. See Plots	+25°C	15.5 dB
			-55°C	15.5 dB
			+85°C	15.6 dB
4	VSWR Input	1.7:1 MAX See Plots	+25°C	1.58:1
			-55°C	1.57:1
			+85°C	1.58:1
5	VSWR Output	1.7:1 MAX See Plots	+25°C	1.22:1
			-55°C	1.19:1
			+85°C	1.24:1
6	Amplitude Balance	0.1 dB TYP. 0.2 dB MAX See Plots	+25°C	0.04 dB MAX.
			-55°C	0.10 dB MAX.
			+85°C	0.10 dB MAX.
7	Phase Balance	±0.75° TYP. ±1.5° MAX. See Plots	+25°C	0.18° MAX.
			-55°C	0.83° MAX.
			+85°C	0.40° MAX.
8	Reverse Power Handling	1 Watt	+25°C	PASS See Plots

**Note: Amplitude and phase balance are relative to J2 Port.**



**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

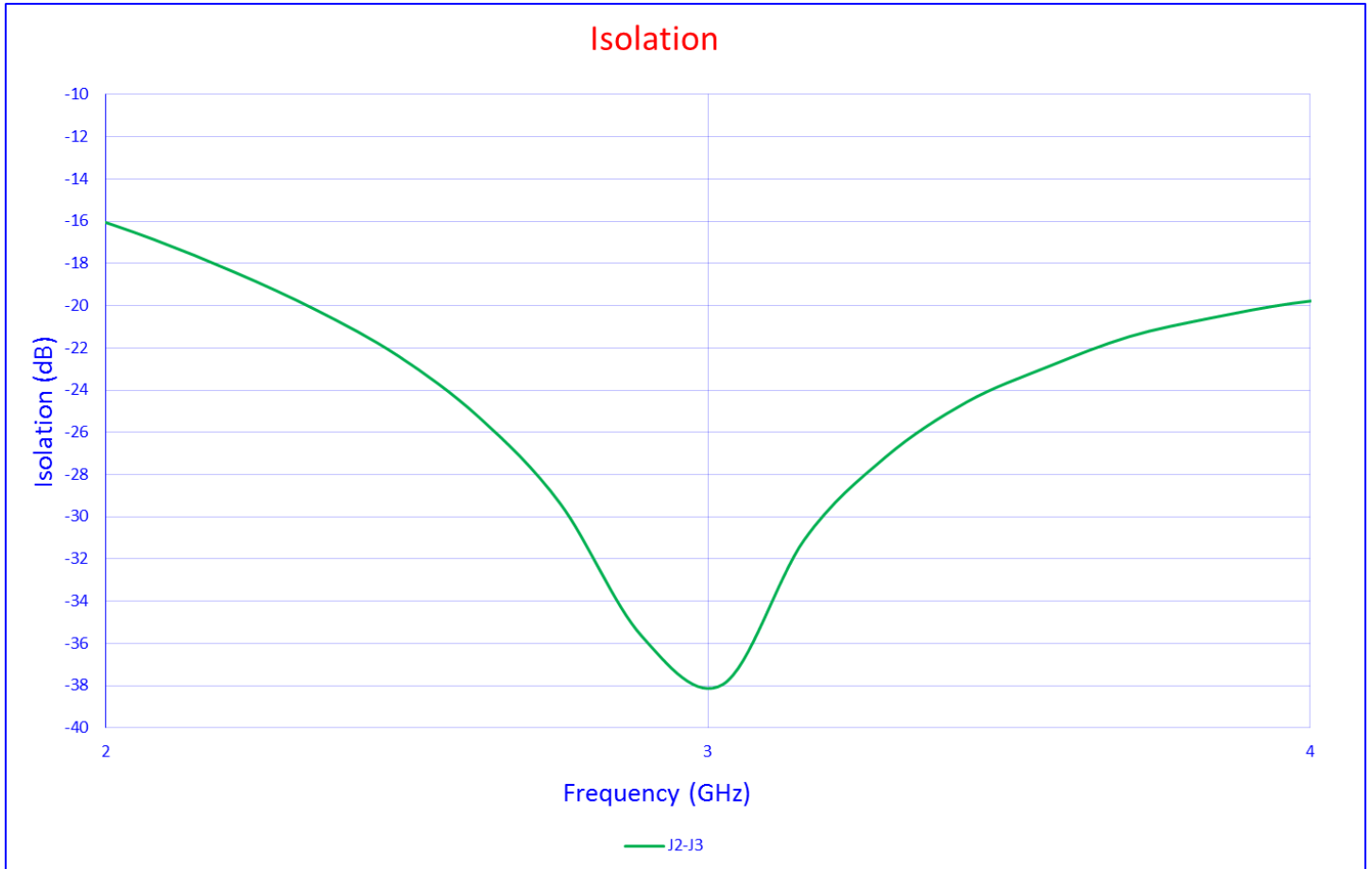
**ABSOLUTE INSERTION LOSS WITH THEROETICAL 3 dB POWER**  
**SPLIT AT 25°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

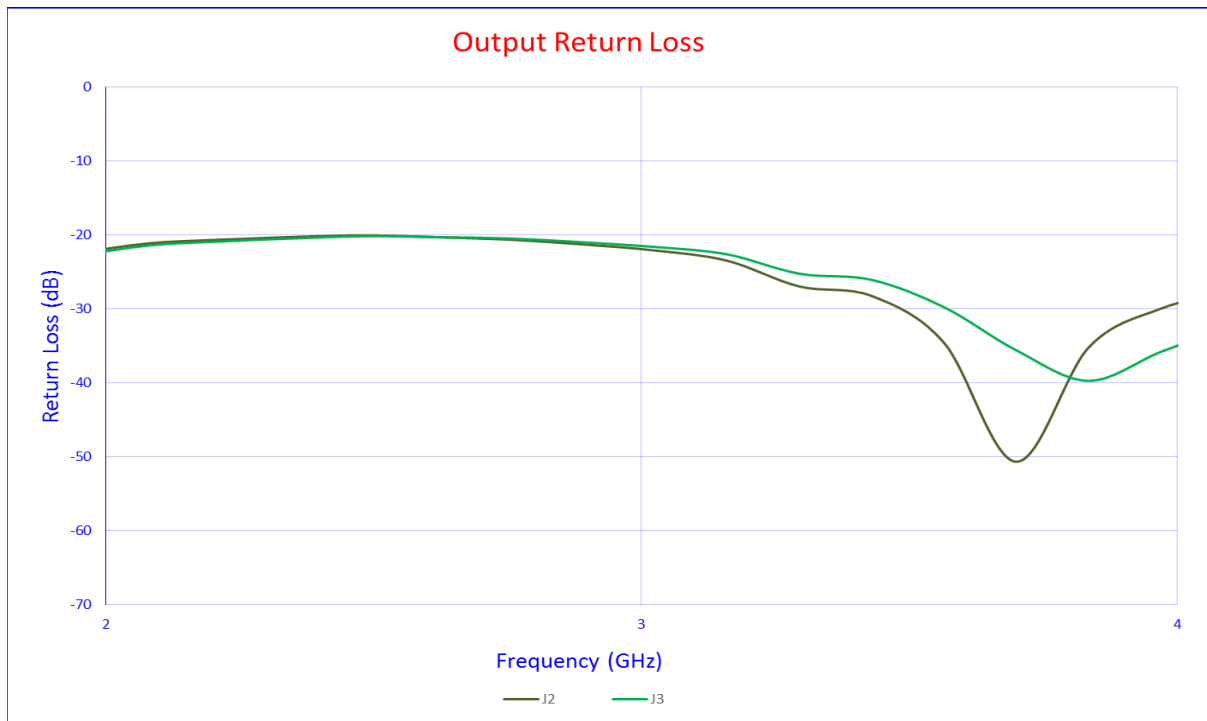
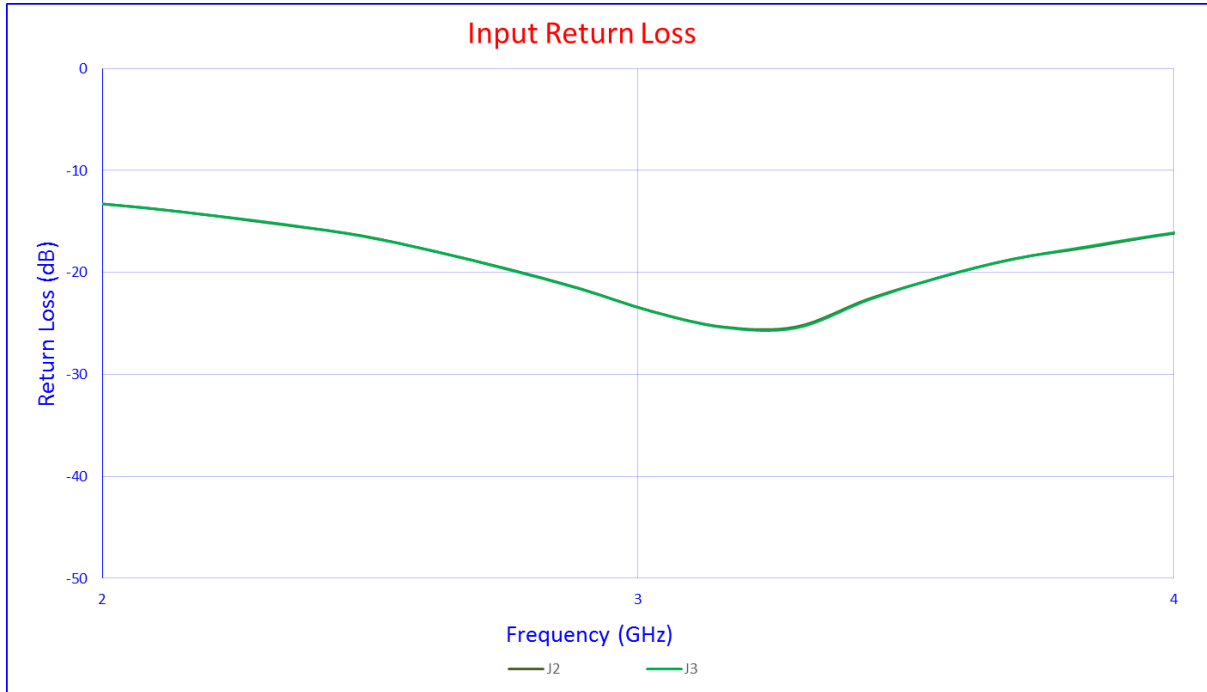
**ISOLATION AT 25°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

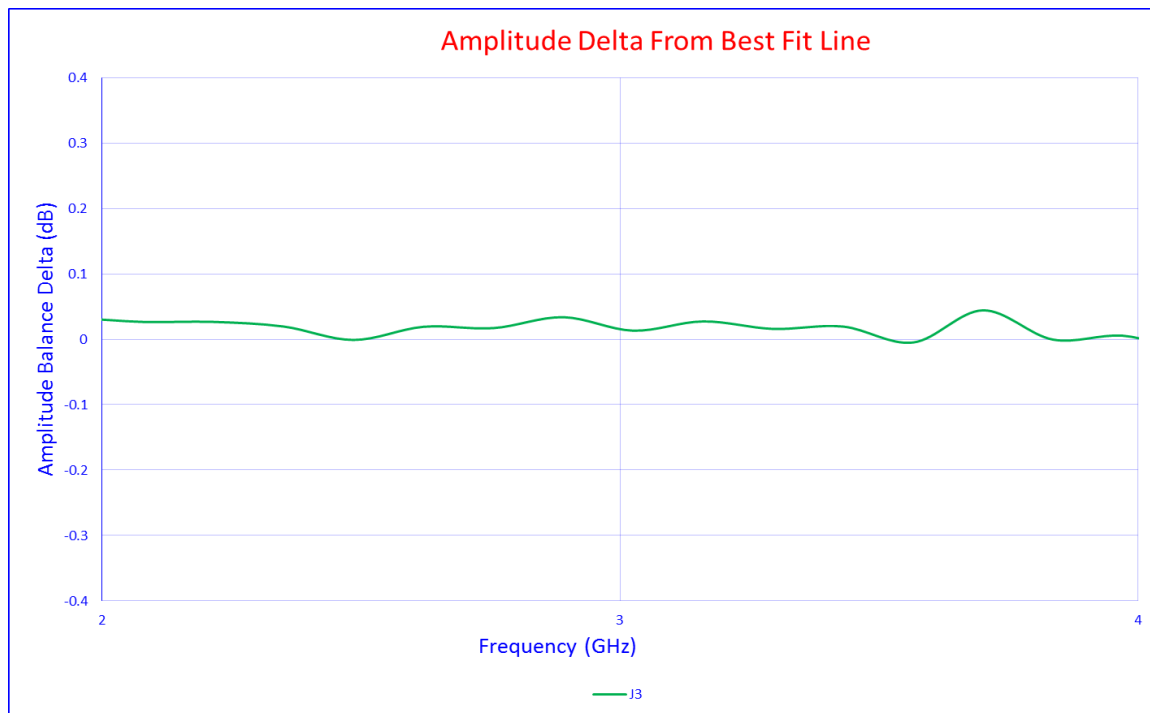
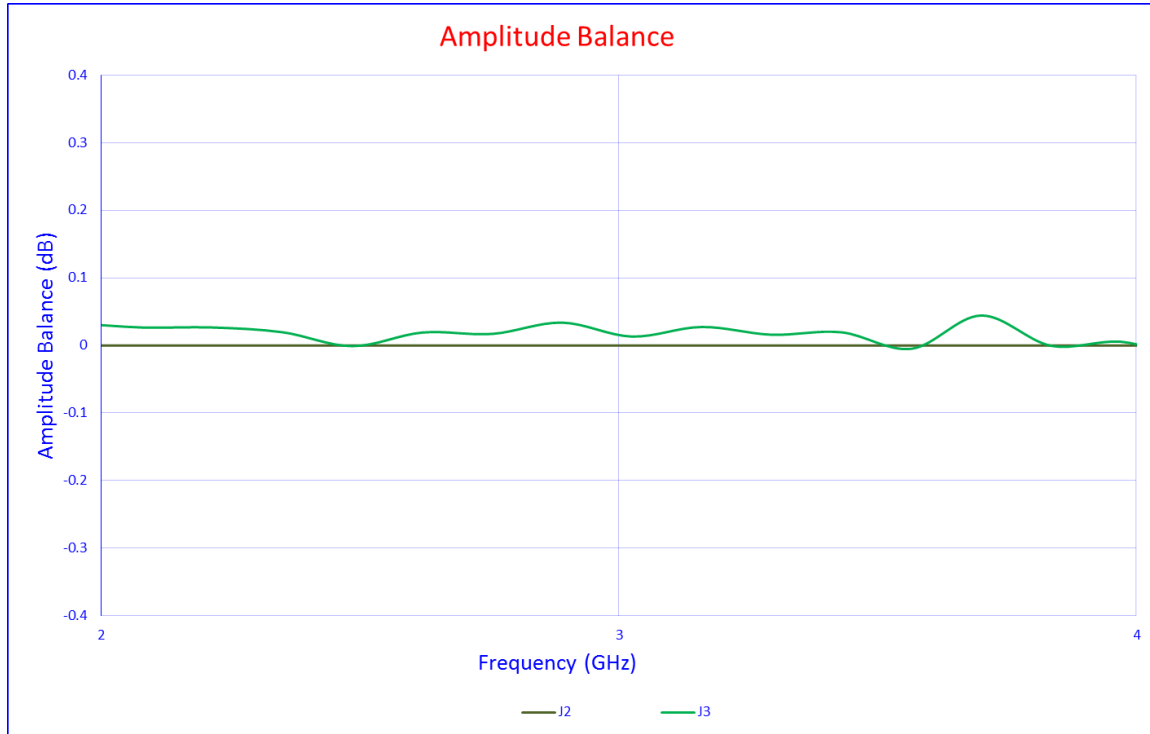
**RETURN LOSS AT 25°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

**AMPLITUDE BALANCE & DELTA FROM BEST FIT LINE AT 25°C**

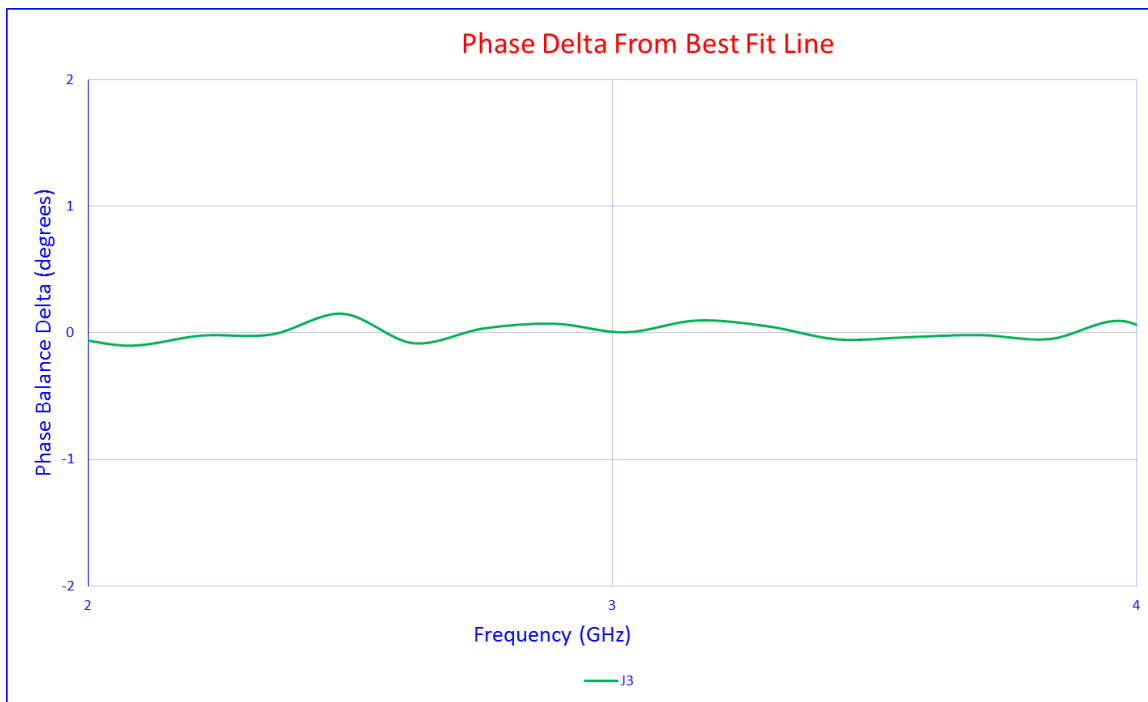
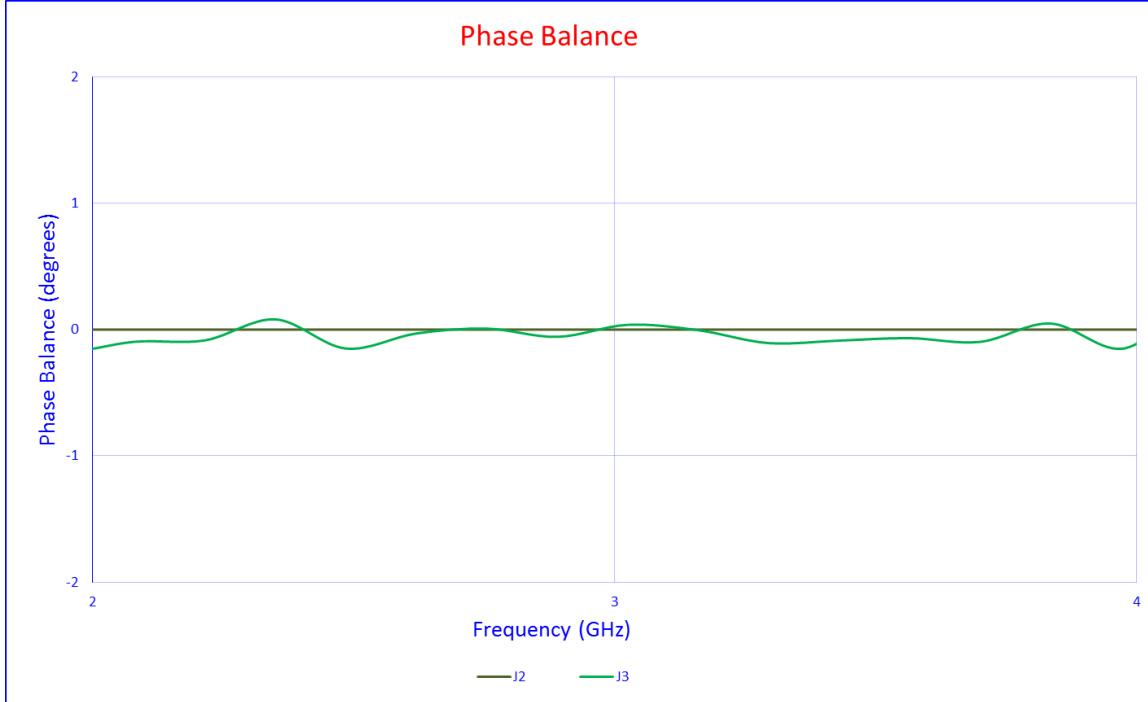






**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

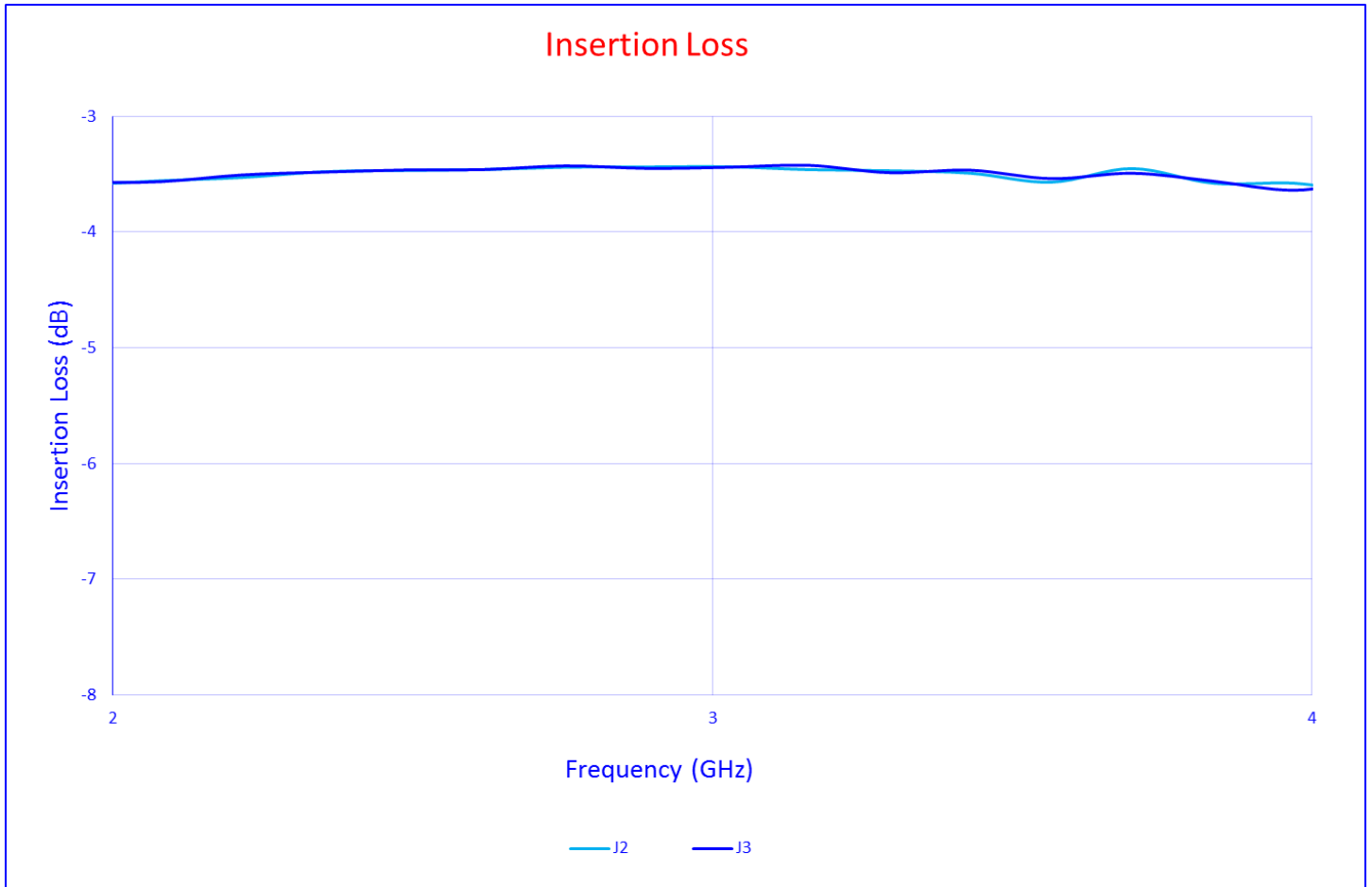
**PHASE BALANCE & DELTA FROM BEST FIT LINE AT 25°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

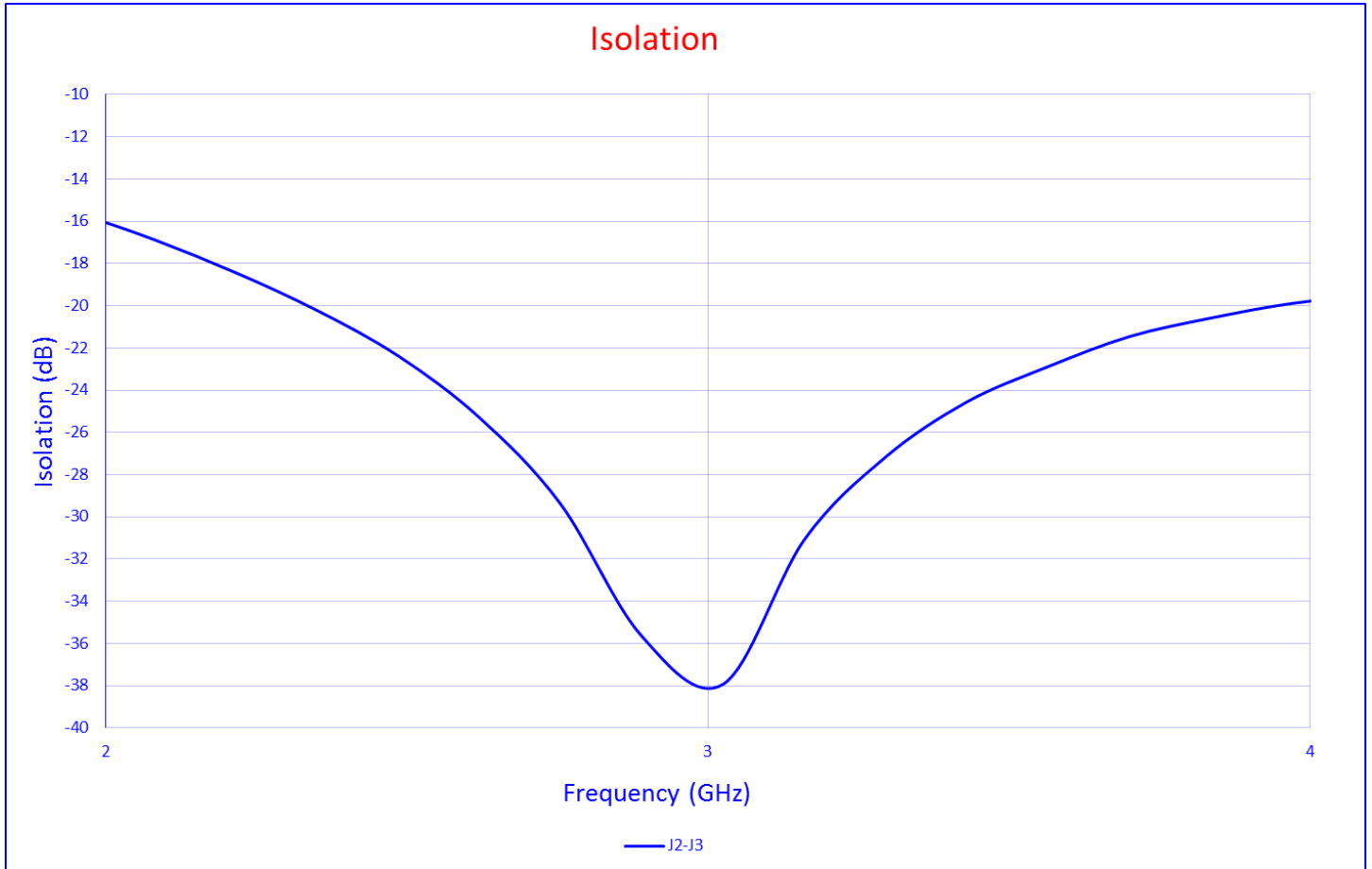
**ABSOLUTE INSERTION LOSS WITH THEROETICAL 3 dB POWER**  
**SPLIT AT -55°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

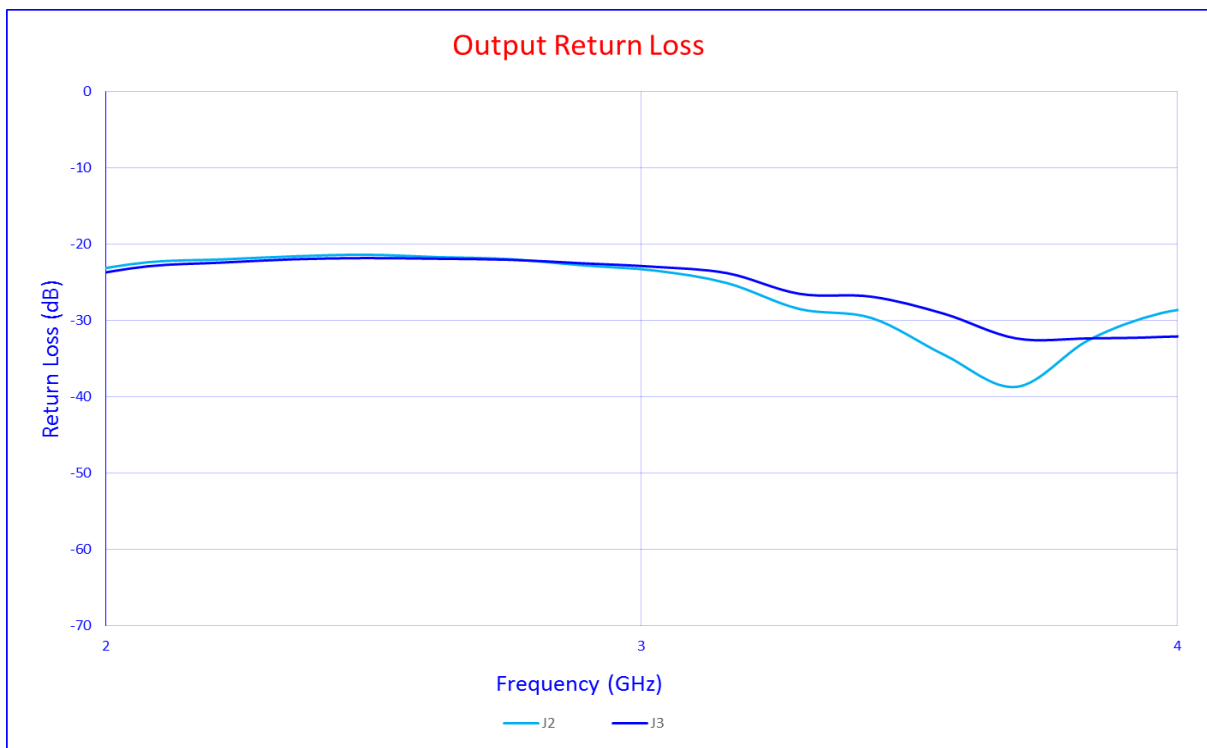
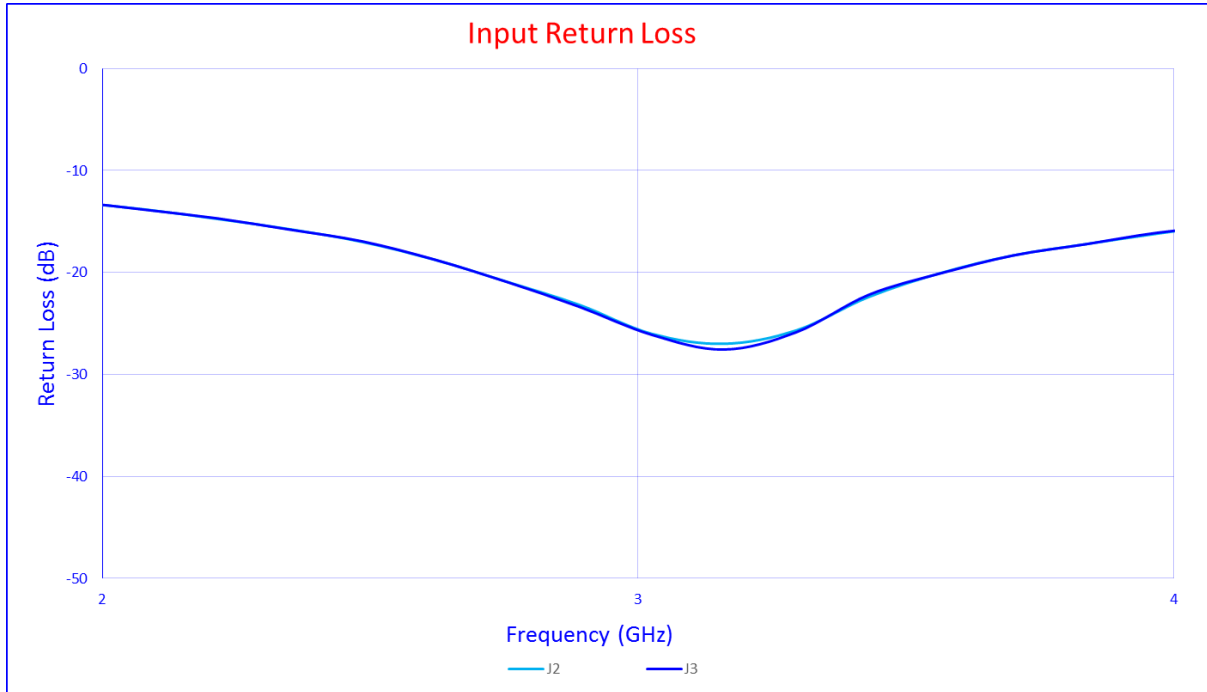
**ISOLATION AT -55°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

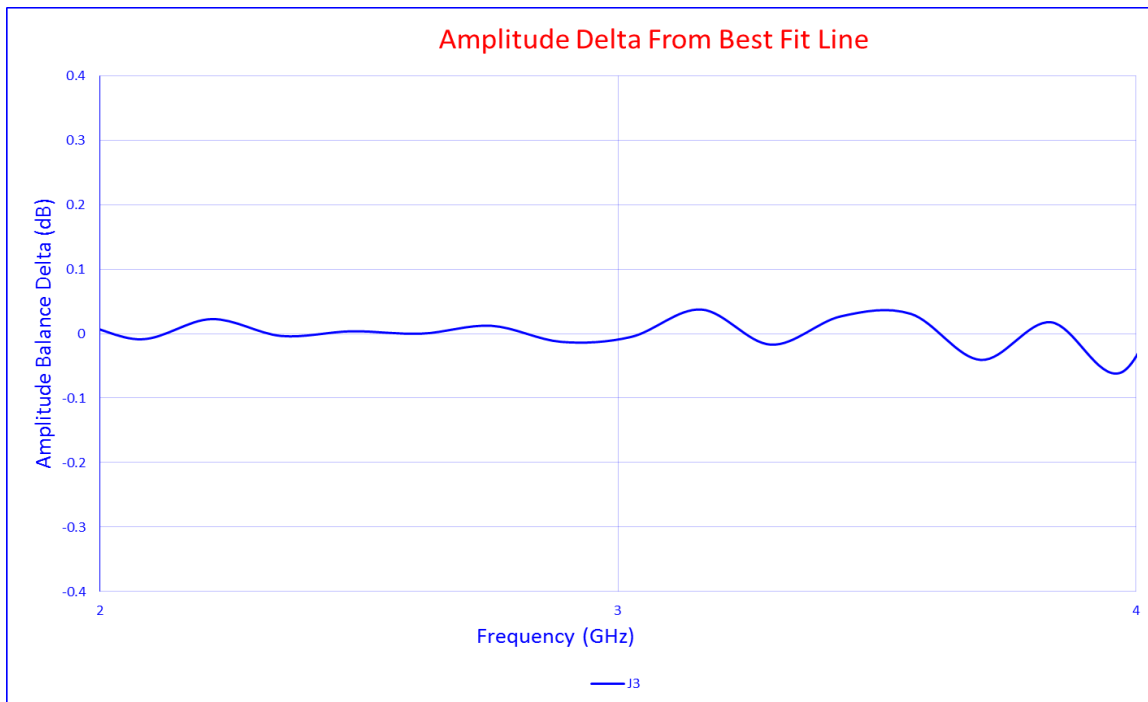
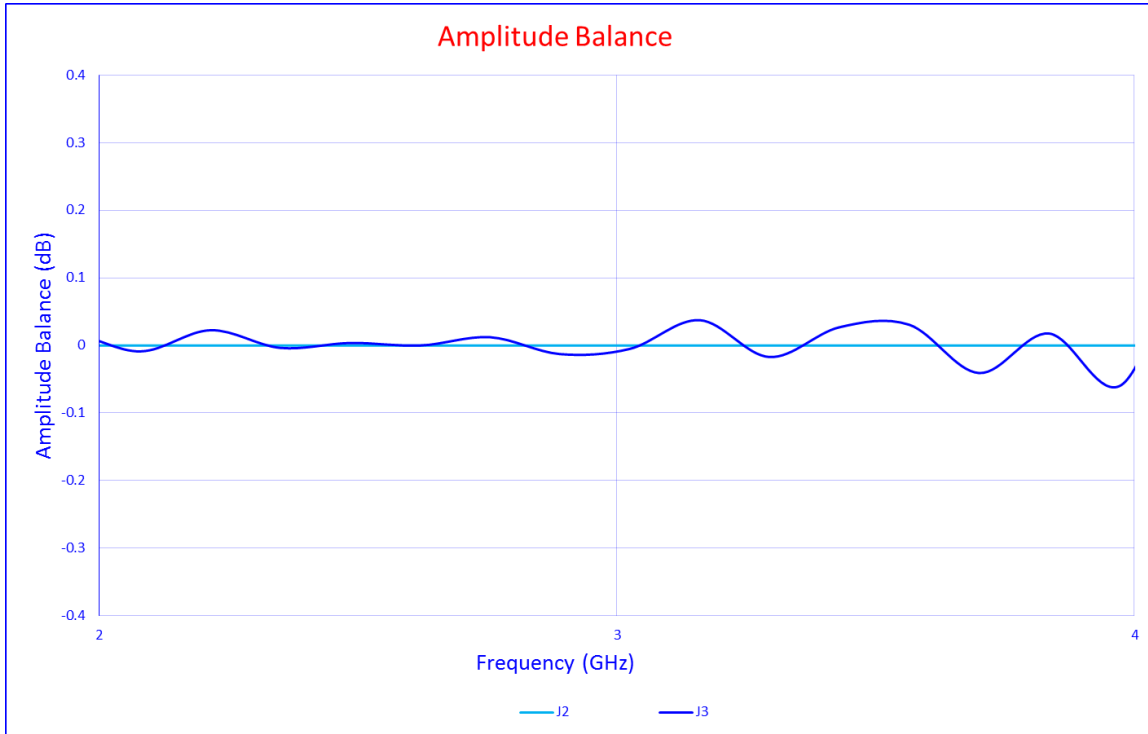
**RETURN LOSS AT -55°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

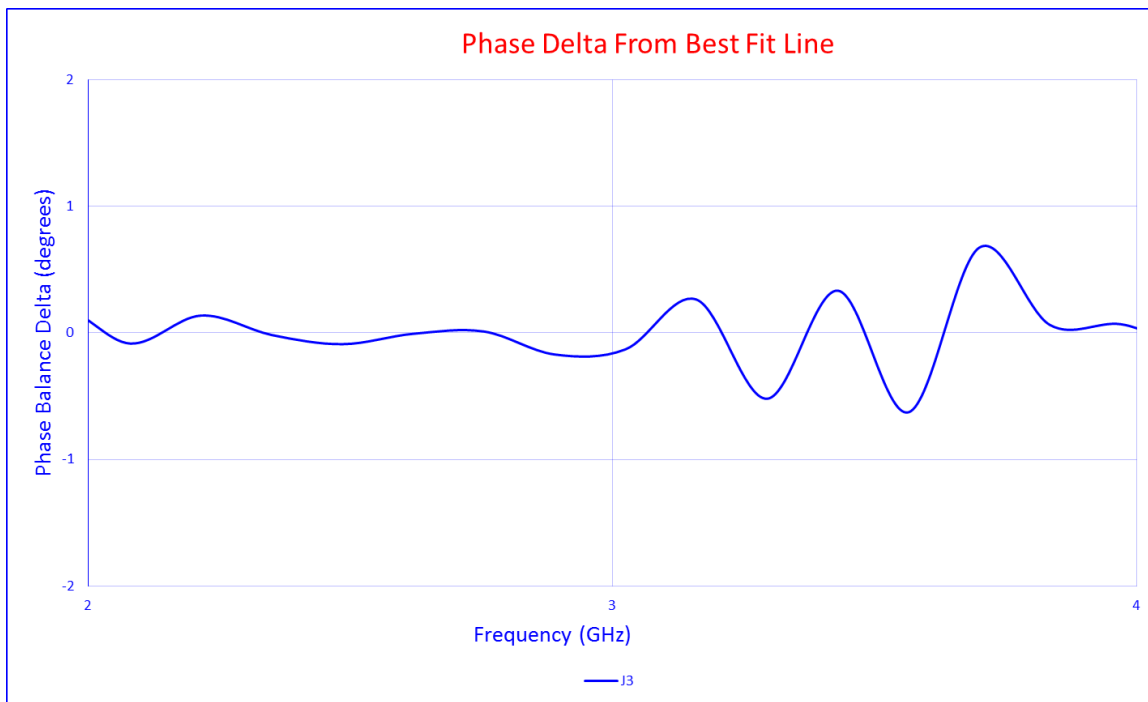
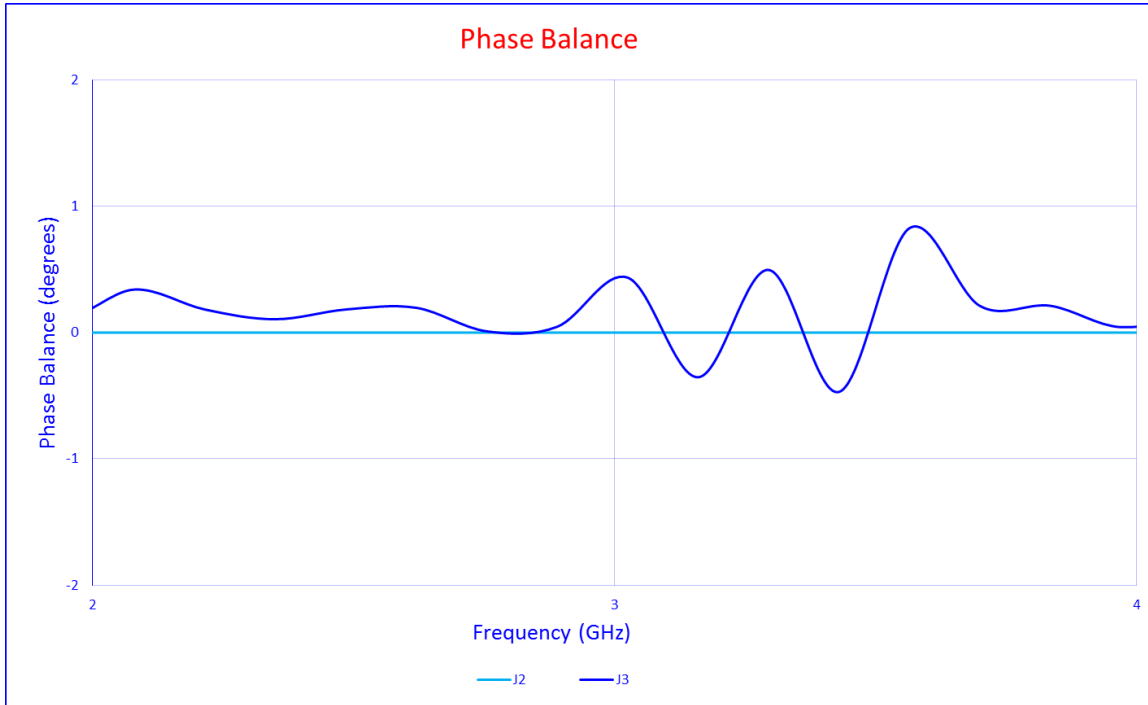
**AMPLITUDE BALANCE & DELTA FROM BEST FIT LINE AT -55°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

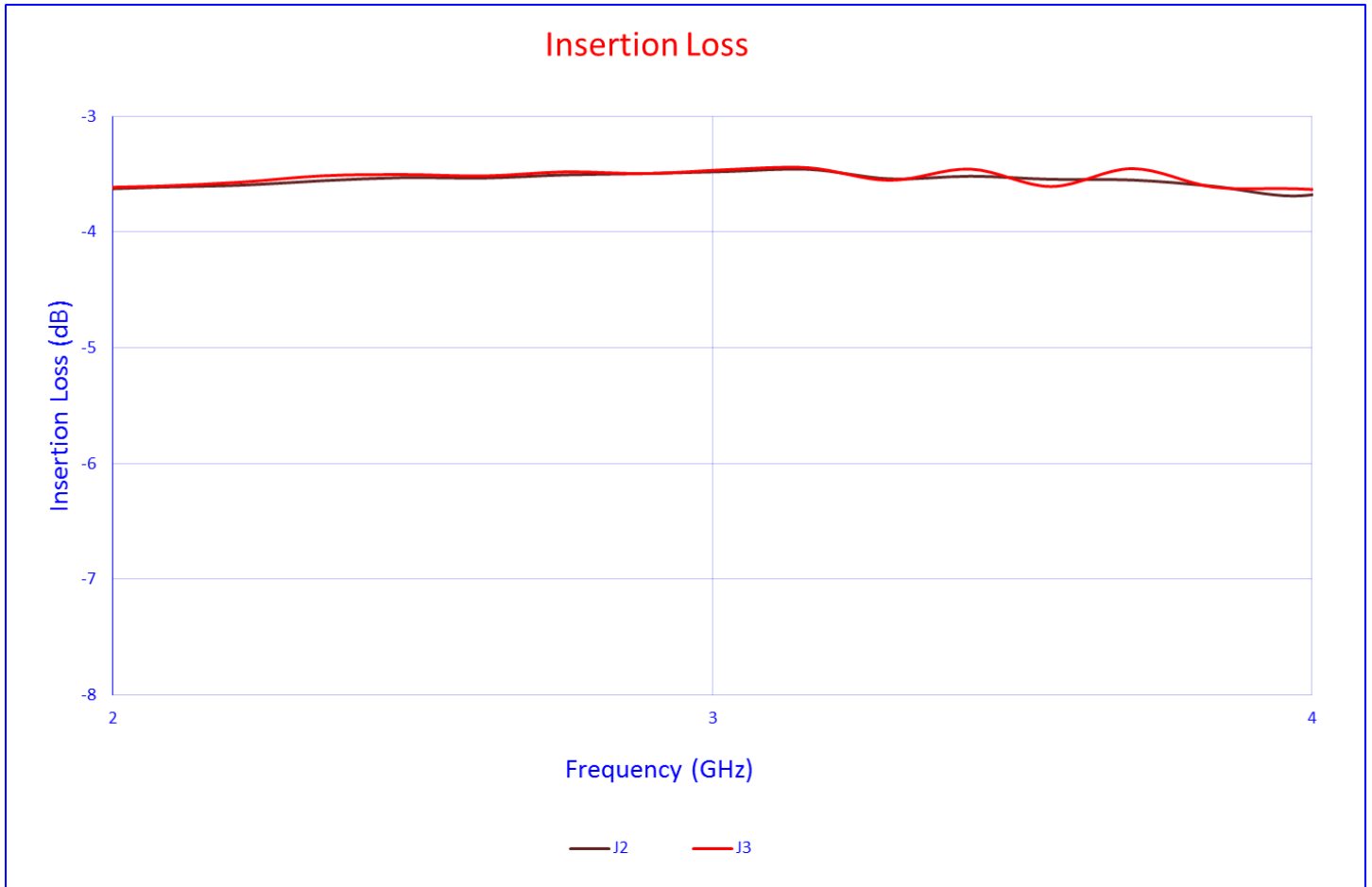
**PHASE BALANCE & DELTA FROM BEST FIT LINE AT -55°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

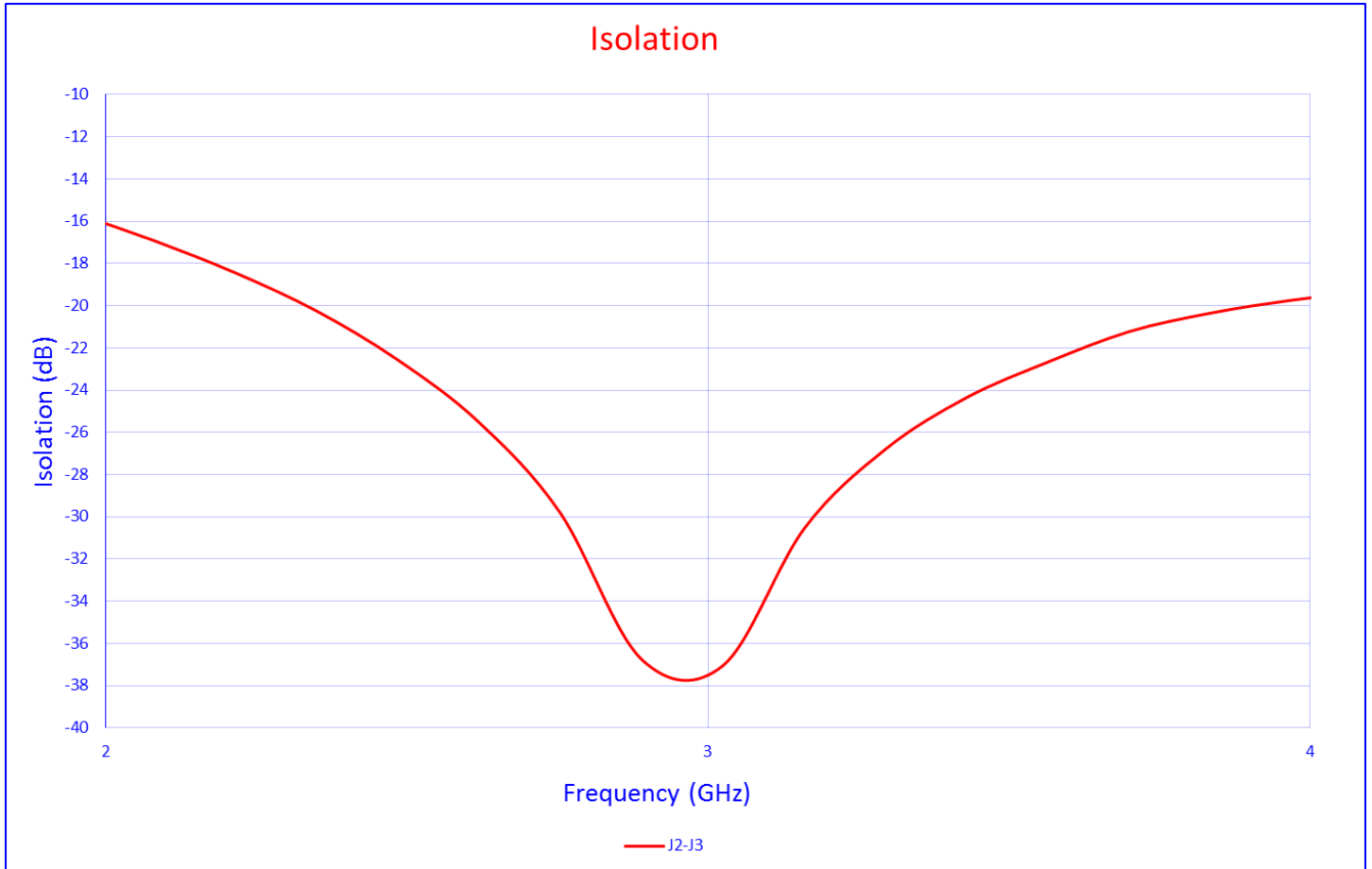
**ABSOLUTE INSERTION LOSS WITH THEROETICAL 3 dB POWER**  
**SPLIT AT 85°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

**ISOLATION AT 85°C**

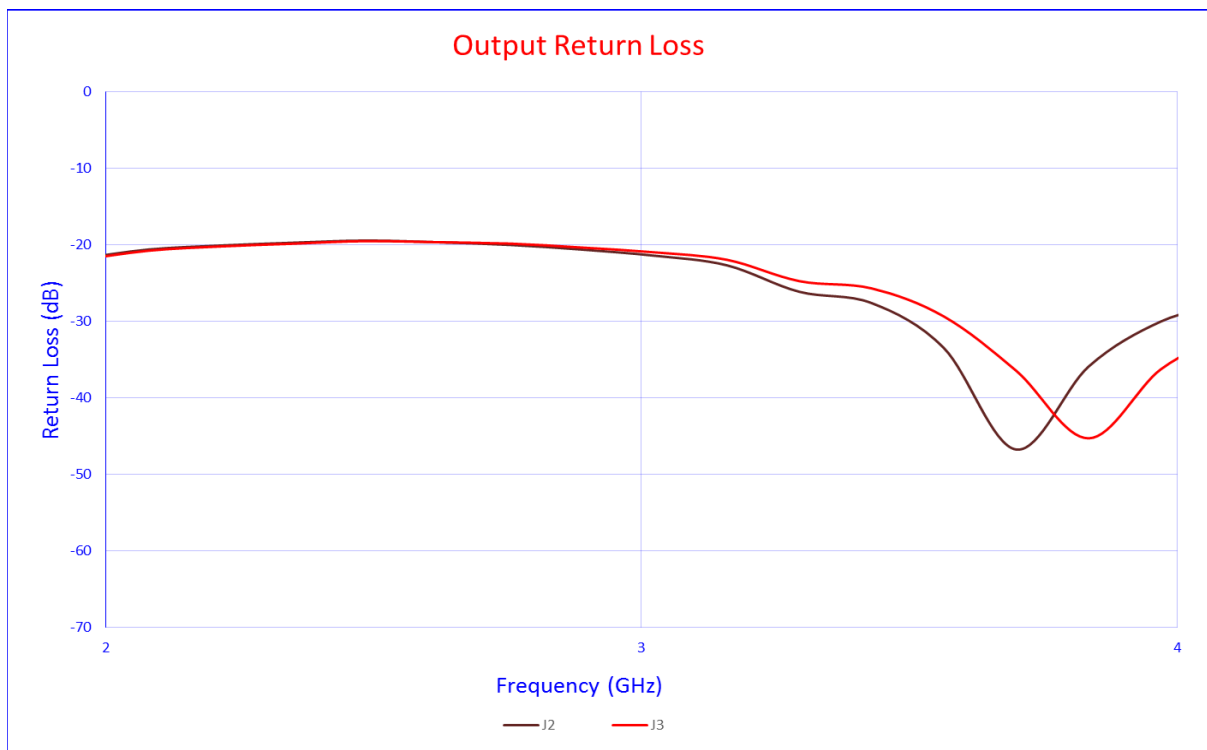
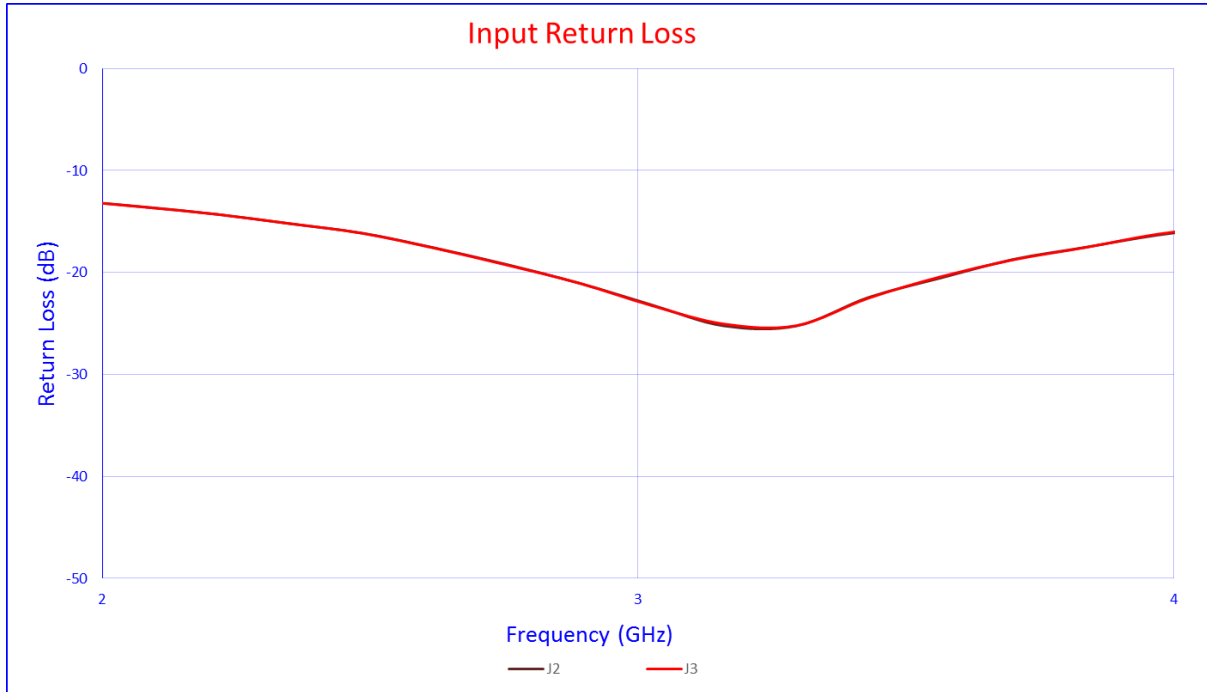






**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

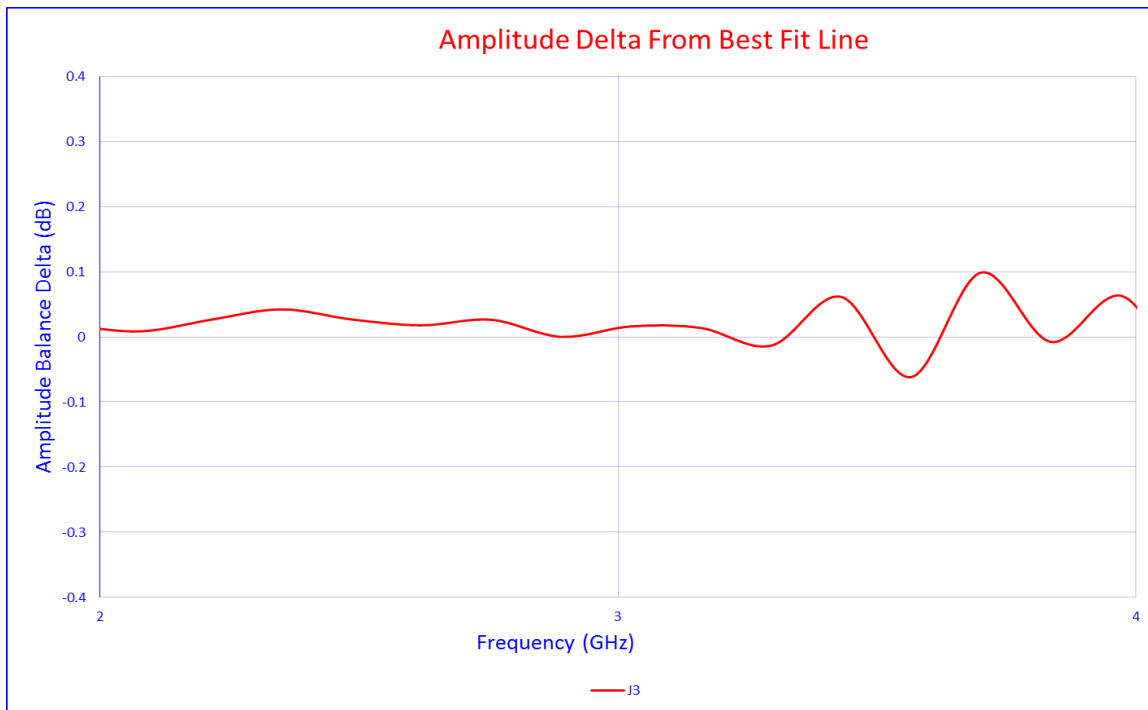
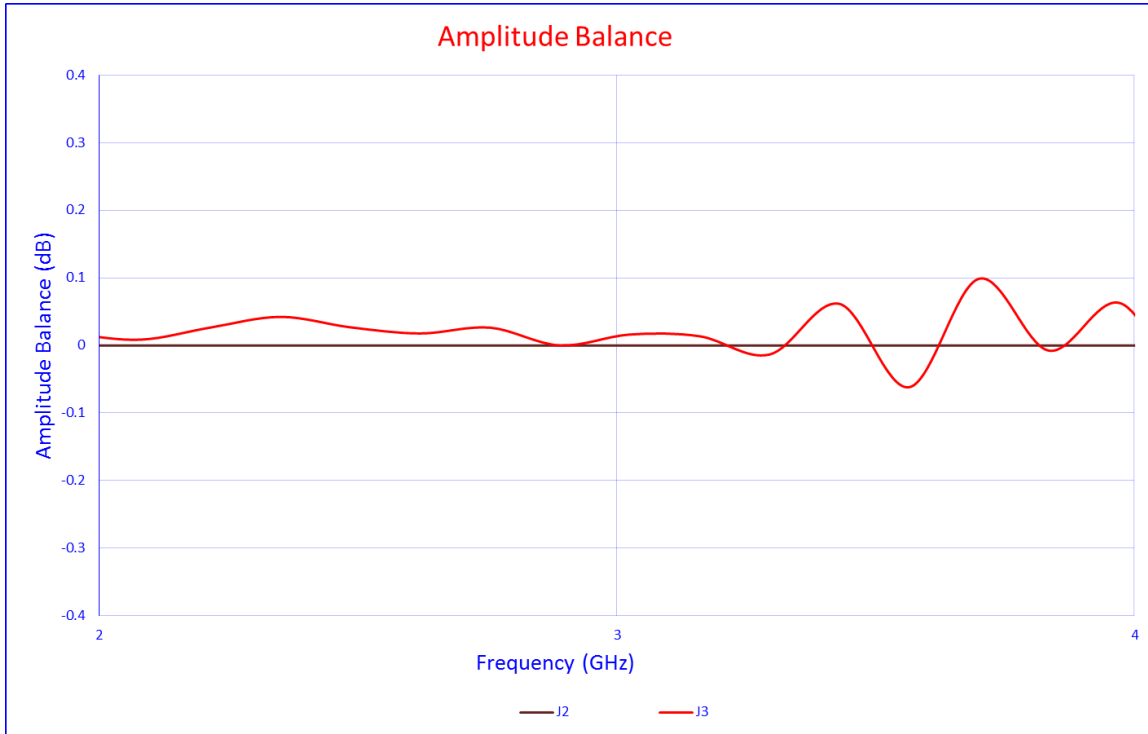
**RETURN LOSS AT 85°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

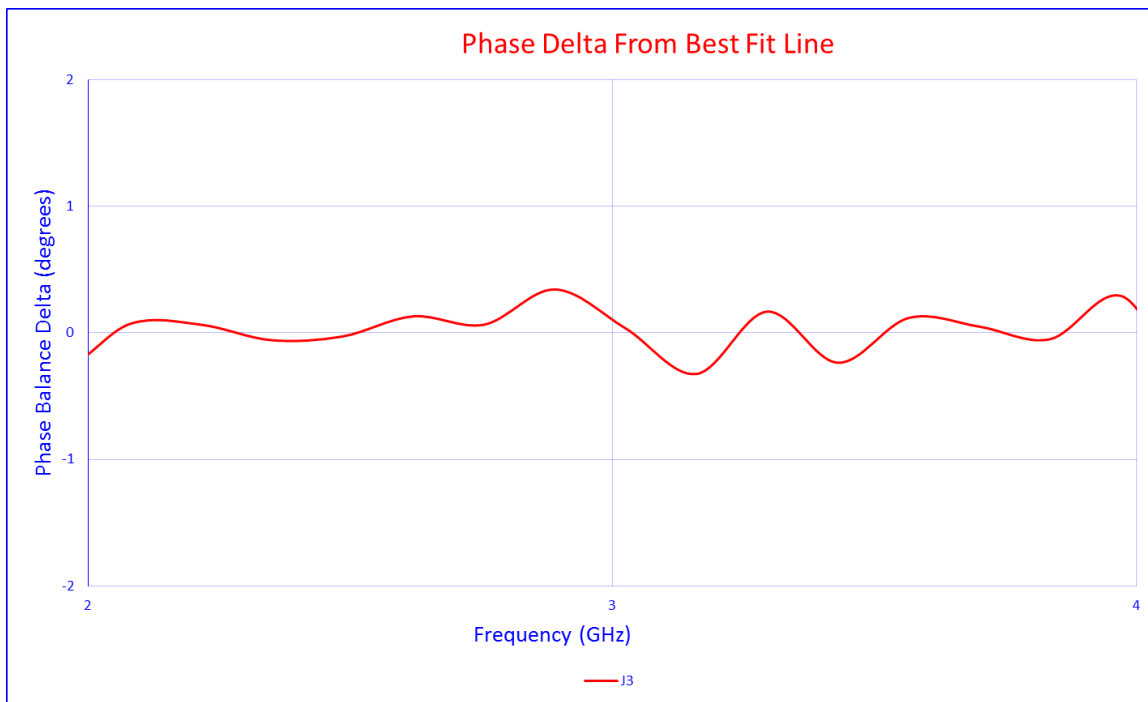
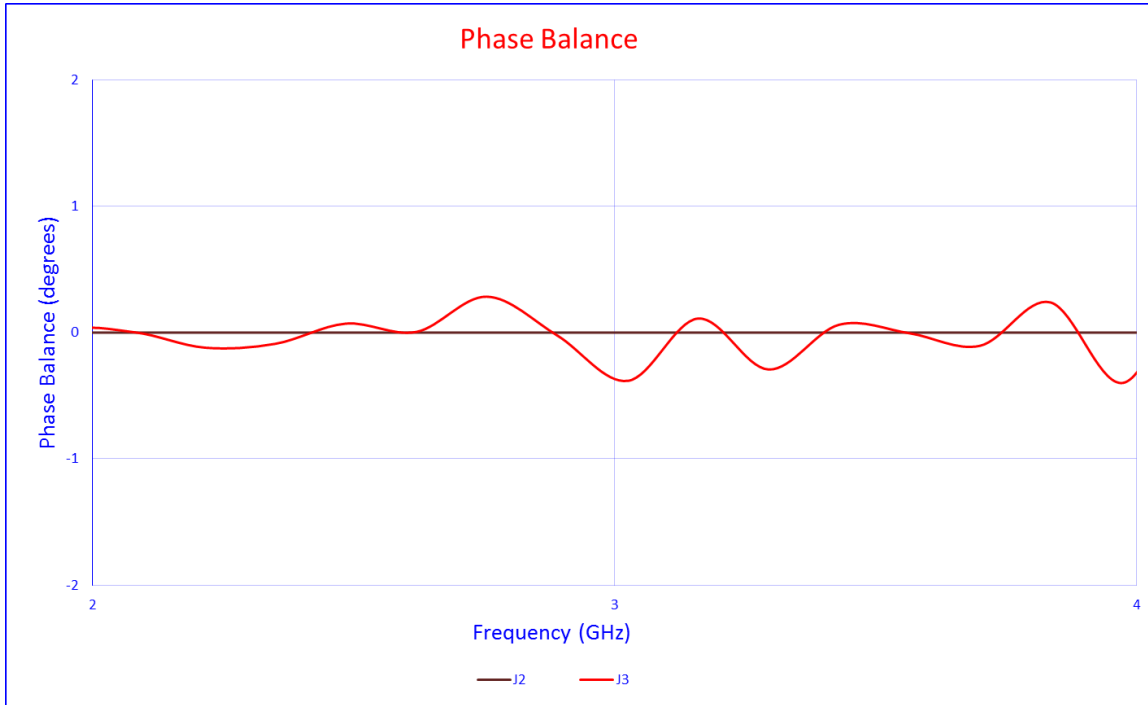
**AMPLITUDE BALANCE & DELTA FROM BEST FIT LINE AT 85°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

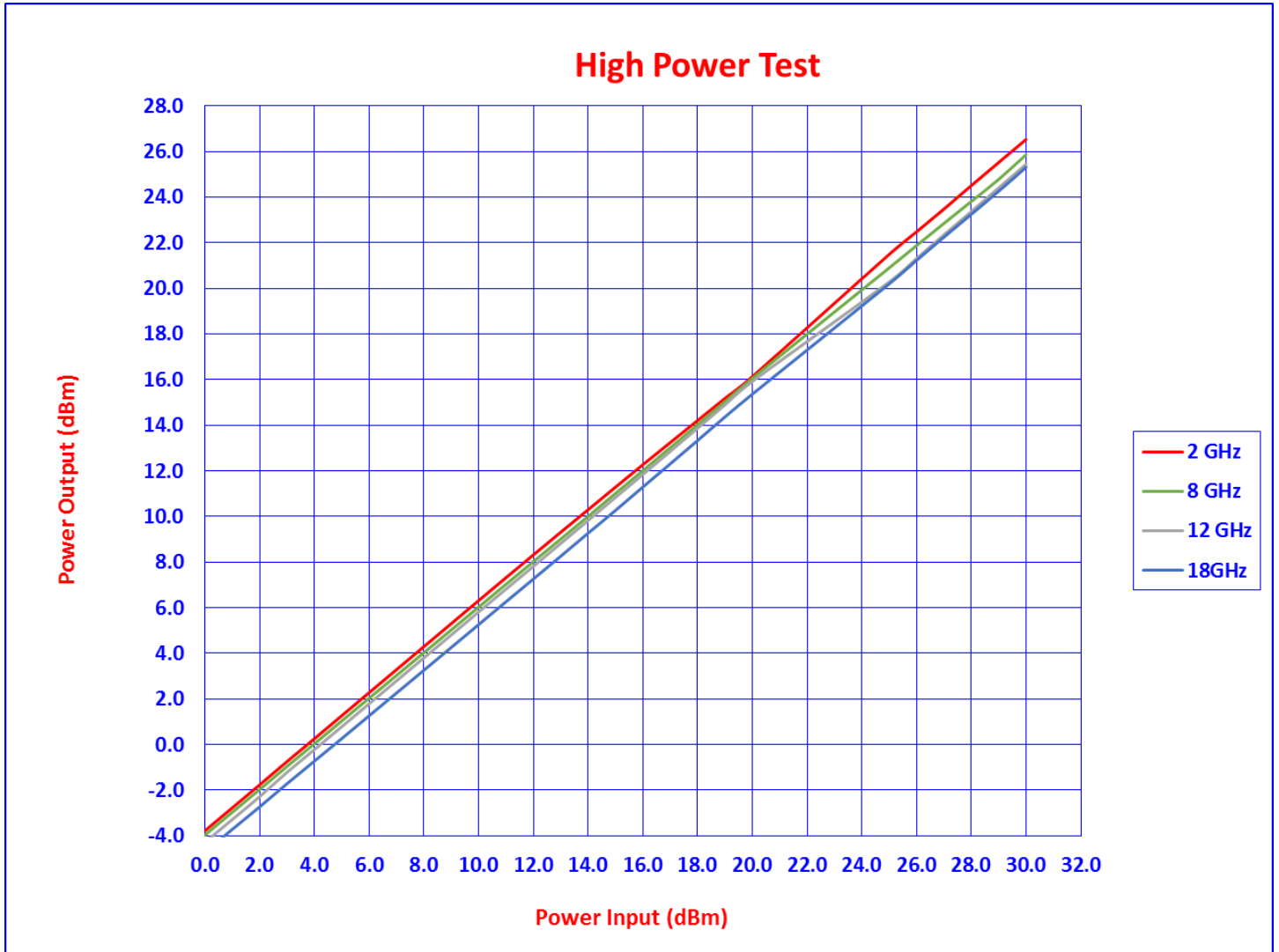
**PHASE BALANCE & DELTA FROM BEST FIT LINE AT 85°C**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

**REVERSE POWER TESTING GRAPH**





**TYPICAL CHARACTERISTICS**  
**ON**  
**APD-2-24-292FF**

**REVERSE POWER TESTING DATA**

2 GHz				8GHz				12GHz				18GHz			
CAL	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	CAL	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	CAL	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	CAL	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS
	0.0	-3.8	3.78		0.0	-3.96	3.96		0.0	-4.29	4.29		0.0	-4.71	4.71
	1.0	-2.8	3.77		1.0	-2.97	3.97		1.0	-3.29	4.29		1.0	-3.72	4.72
	2.0	-1.8	3.76		2.0	-1.97	3.97		2.0	-2.28	4.28		2.0	-2.73	4.73
	3.0	-0.7	3.74		3.0	-0.95	3.95		3.0	-1.22	4.22		3.0	-1.71	4.71
	4.0	0.3	3.74		4.0	0.04	3.96		4.0	-0.22	4.22		4.0	-0.73	4.73
	5.0	1.3	3.73		5.0	1.04	3.96		5.0	0.78	4.22		5.0	0.26	4.74
	6.0	2.3	3.72		6.0	2.03	3.97		6.0	1.79	4.21		6.0	1.26	4.74
	7.0	3.3	3.71		7.0	3.03	3.97		7.0	2.79	4.21		7.0	2.26	4.74
	8.0	4.3	3.71		8.0	4.03	3.97		8.0	3.80	4.20		8.0	3.26	4.74
	9.0	5.3	3.70		9.0	5.03	3.97		9.0	4.81	4.19		9.0	4.26	4.74
	10.0	6.3	3.69		10.0	6.03	3.97		10.0	5.81	4.19		10.0	5.26	4.74
	11.0	7.3	3.68		11.0	7.03	3.97		11.0	6.82	4.18		11.0	6.26	4.74
	12.0	8.3	3.68		12.0	8.02	3.98		12.0	7.82	4.18		12.0	7.26	4.74
	13.0	9.3	3.69		13.0	9.01	3.99		13.0	8.82	4.18		13.0	8.26	4.74
	14.0	10.3	3.70		14.0	10.00	4.00		14.0	9.82	4.18		14.0	9.27	4.73
	15.0	11.3	3.71		15.0	11.01	3.99		15.0	10.83	4.17		15.0	10.27	4.74
	16.0	12.3	3.73		16.0	12.01	3.99		16.0	11.84	4.16		16.0	11.29	4.71
	17.0	13.2	3.76		17.0	13.02	3.99		17.0	12.85	4.15		17.0	12.31	4.69
	18.0	14.2	3.79		18.0	14.02	3.98		18.0	13.87	4.13		18.0	13.33	4.67
	19.0	15.2	3.82		19.0	15.04	3.97		19.0	14.89	4.11		19.0	14.36	4.64
	20.0	16.1	3.87		20.0	16.00	4.00		20.0	15.92	4.08		20.0	15.36	4.64
<b>-38.17</b>	25.0	21.5	3.51	<b>-19.73</b>	25.0	20.90	4.10	<b>-19.45</b>	25.0	20.28	4.72	<b>-18.76</b>	25.0	20.20	4.80
<b>-37.08</b>	26.0	22.5	3.52	<b>-18.74</b>	26.0	21.88	4.12	<b>-18.38</b>	26.0	21.31	4.69	<b>-17.69</b>	26.0	21.23	4.77
<b>-36.05</b>	27.0	23.5	3.52	<b>-17.73</b>	27.0	22.85	4.15	<b>-17.27</b>	27.0	22.35	4.65	<b>-16.58</b>	27.0	22.25	4.75
<b>-35.01</b>	28.0	24.5	3.49	<b>-16.73</b>	28.0	23.81	4.19	<b>-16.16</b>	28.0	23.37	4.63	<b>-15.44</b>	28.0	23.25	4.75
<b>-33.99</b>	29.0	25.5	3.48	<b>-15.69</b>	29.0	24.78	4.22	<b>-14.99</b>	29.0	24.41	4.59	<b>-14.23</b>	29.0	24.26	4.74
<b>-32.98</b>	30.0	26.5	3.47	<b>-14.59</b>	30.0	25.86	4.14	<b>-13.77</b>	30.0	25.44	4.56	<b>12.86</b>	30.0	25.31	4.69