Typical Characteristics ON LM-118-100W-22DBM

THE MODEL PMI LM-118-100W-22DBM IS AN RF LIMITER THAT OPERATES IN THE RANGE OF FREQUENCIES FROM 1GHz TO 18GHz. THIS LIMITER CAN HANDLE UP TO 100W CW OVER TEMPERATURE (-55°C TO +85°C). THE LEAKAGE POWER IS +22 dBm MAX. THIS MODEL HAS A LOW INSERTION LOSS OF 3.0 dB AND A MAXIMUM 100ns RECOVERY TIME.

September 11, 2024

Designed By:

Engineering PMI

Tested and Reported By:

Alfredo Lopez

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Typical Characteristics ON LM-118-100W-22DBM

Product Feature

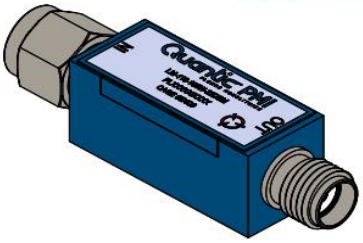
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	12/21/2023	
	B1	ECN # 24-0166	06/07/2024	
	B2	ECN # 24-260	9/10/2024	

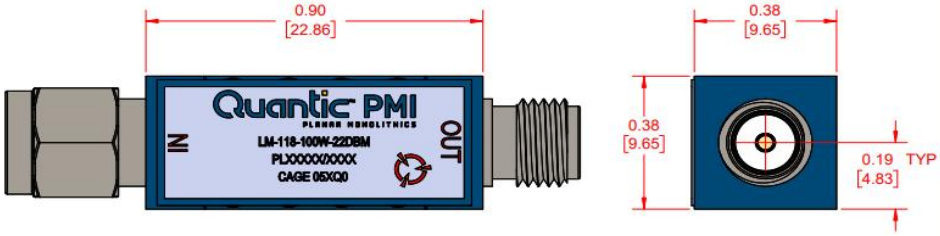
DESCRIPTION:

THE MODEL PMI LM-118-100W-22DBM IS AN RF LIMITER THAT OPERATES IN THE RANGE OF FREQUENCIES FROM 1GHz TO 18GHz. THIS LIMITER CAN HANDLE UP TO 100W CW OVER TEMPERATURE (-55°C TO +85°C). THE LEAKAGE POWER IS +22 dBm MAX. THIS MODEL HAS A LOW INSERTION LOSS OF 3.0 dB AND A MAXIMUM 100ns RECOVERY TIME.

SPECIFICATIONS:

- FREQUENCY RANGE:..... 1.0 TO 18.0 GHz
- RF POWER HANDLING:..... 100W CW MAX. @ -55°C TO +85°C
  1kW PEAK MAX. +85°C (1µs Pulse Width, 0.1% Duty Cycle)
  100W (1µs, 1% DUTY CYCLE, 10kHZ)
  100W (10 µs, 0.1% DUTY CYCLE, 100HZ)
  100W (1 µs, 0.1% DUTY CYCLE, 1kHZ)
  100W (40 µs, 10% DUTY CYCLE, 2.5kHZ)
- INSERTION LOSS:..... 3.0 dB MAX. @ -10dBm INPUT POWER
- RECOVERY:..... 100ns MAX. @ 100W PEAK POWER
- LEAKAGE POWER:..... +22 dBm MAX. @ 100W CW
- VSWR:..... 2.0:1 MAX. @ -10dBm INPUT POWER
- LIMITING THRESHOLD (P1dB):..... +12 dBm MIN.
- CONNECTORS:..... INPUT: SMA MALE
  OUTPUT: SMA FEMALE
- WEIGHT:..... 20g [0.705 oz] MAX.
- SIZE:..... (L) 0.90" X (W) 0.38" X (H)0.38" MAX.
  (EXCLUDING CONNECTORS)
- FINISH:..... PAINTED BLUE





PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE
DRAWN S AZHAR	12/21/2023
RELEASED	
ISSUED	

Quantic PMI PLANAR MONOLITHICS
7309-A GROVE ROAD FREDERICK MARYLAND 21704 USA
WEB: WWW.QUANTICPMI.COM, EMAIL: SALES@QUANTICPMI.COM
ISO 9001 CERTIFIED

TITLE: OUTLINE
LM-118-100W-22DBM

SIZE	FSCM NO.	DWG NO.	REV
B	05XQ0	27047900	B2

SCALE 4:1 SHEET 1 OF 1

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -55°C TO +85°C (OPERATING)
  -62°C TO +95°C (STORAGE)

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

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Typical Characteristics ON LM-118-100W-22DBM

Technical Specifications

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results			QA QC
			+25°C	-55°C	+85°C	
1	Frequency Range:	1 to 18 GHz	**1 to 18 GHz**	**1 to 18 GHz**	**1 to 18 GHz**	
2	Insertion Loss:	3.0 dB Max. @ -10 dBm Input	**2.41 dB See Graph**	**1.88 dB See Graph**	**2.76 dB See Graph**	
3	Input/Output VSWR:	2.0:1 Max. @ -10 dBm Input	**1.91:1 See Graph**	**1.92:1 See Graph**	**1.91:1 See Graph**	
4	Leakage:	+22 dBm Max.	**18.92 dBm See Graph**	**18.67 dBm See Graph**	**18.73 dBm See Graph**	
5	Recovery Time:	100 ns Max. @100W Peak Power	**76.40 ns @ 100 Watts Peak Input Power See Plot**	**76.40 ns @ 100 Watts Peak Input Power See Plot**	**76.40 ns @ 100 Watts Peak Input Power See Plot**	
6	RF Power Handling:	100 Watt CW Max. @-55°C to +85°C	**Pass 100 Watts CW See Graph**	**Pass 100 Watts CW See Graph**	**Pass 100 Watts CW See Graph**	
		1KW Peak Max. (1µs PW, 0.1% Duty Cycle)	**Tested @ 250 watts Peak See Plot**	**Tested @ 250 watts Peak See Plot**	**Tested @ 250 watts Peak See Plot**	
7	Limiting Threshold (P1dB):	+12 dBm Min.	**+12 dBm See Graph**	**+13 dBm See Graph**	**+12 dBm See Graph**	

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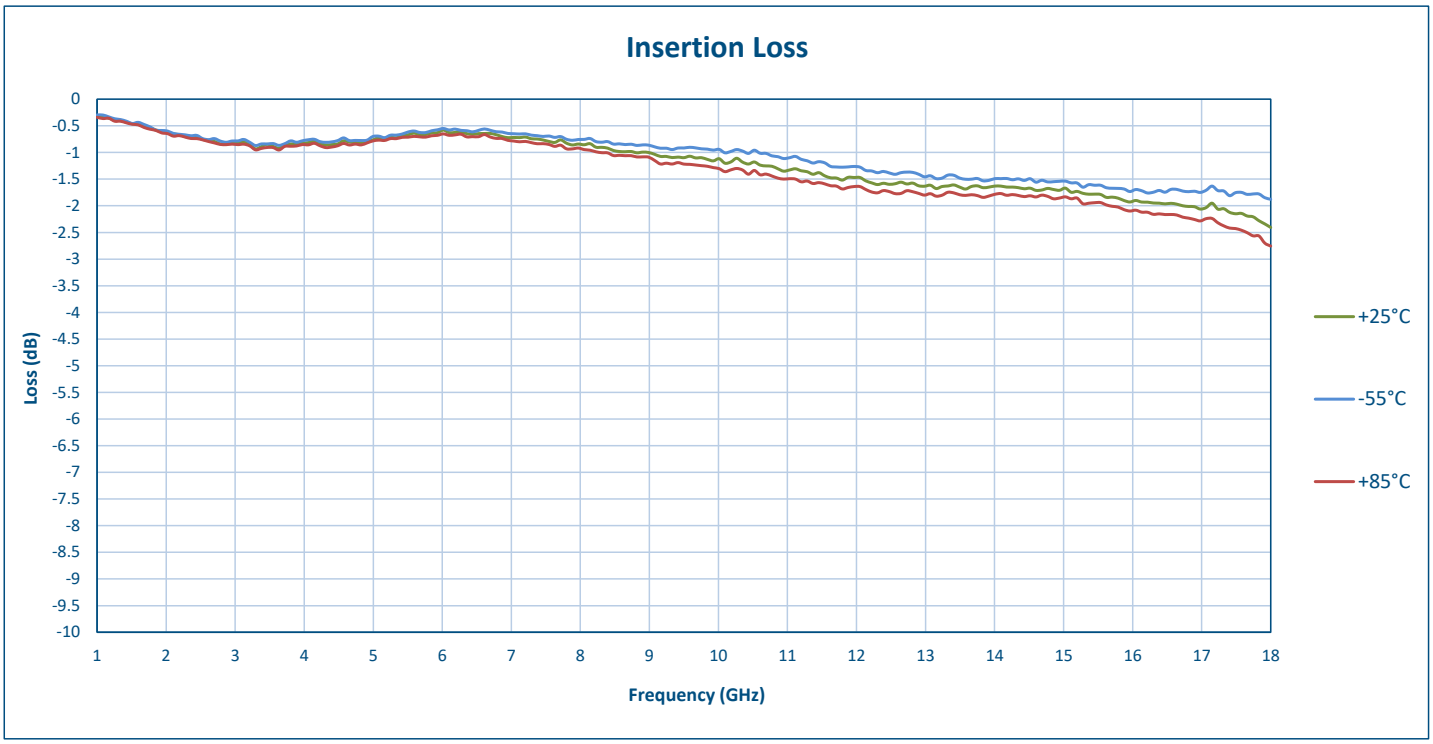

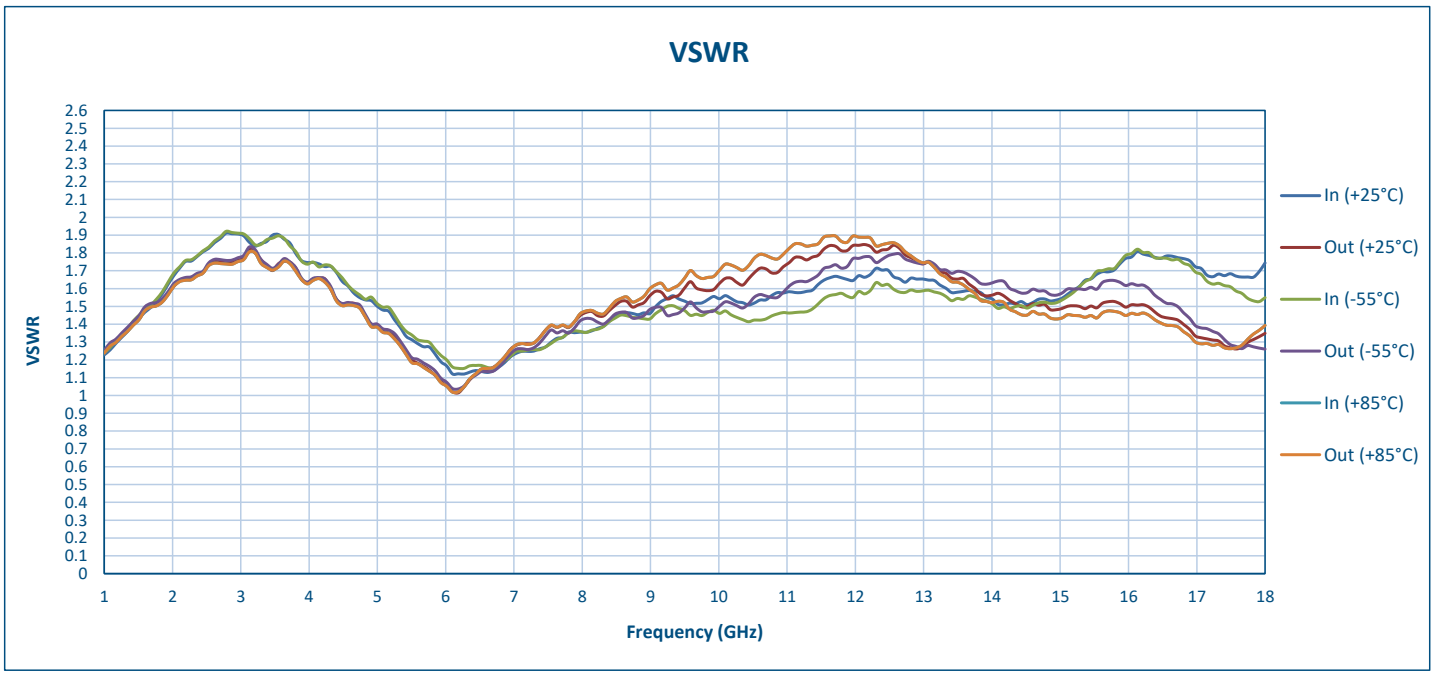

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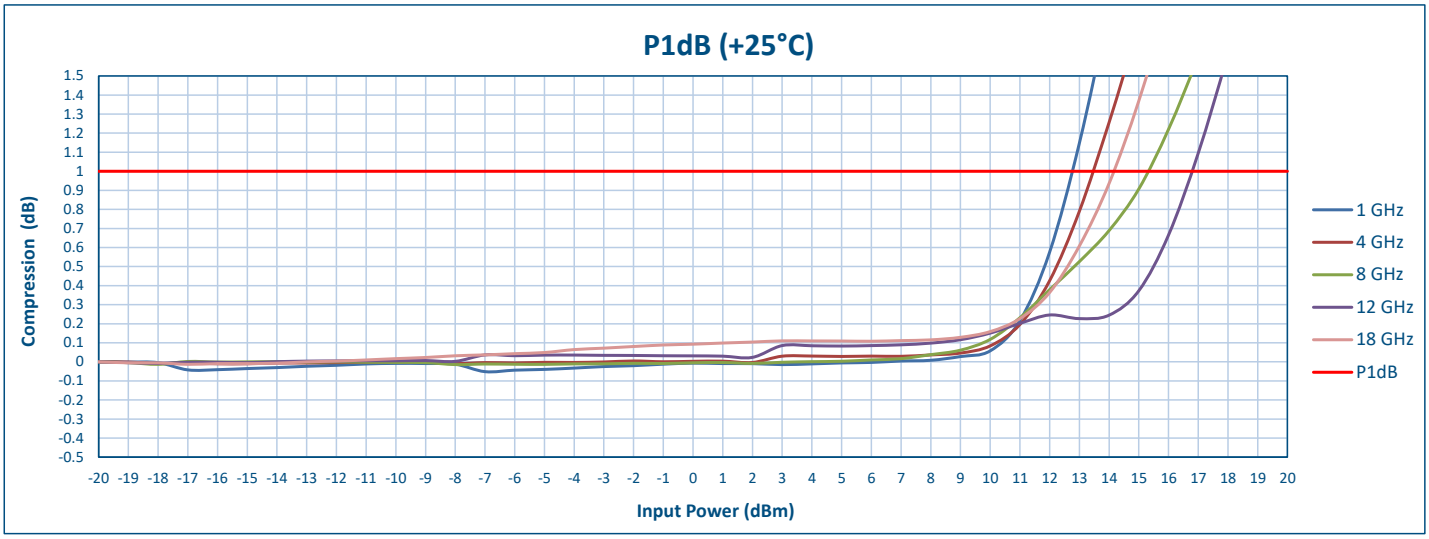

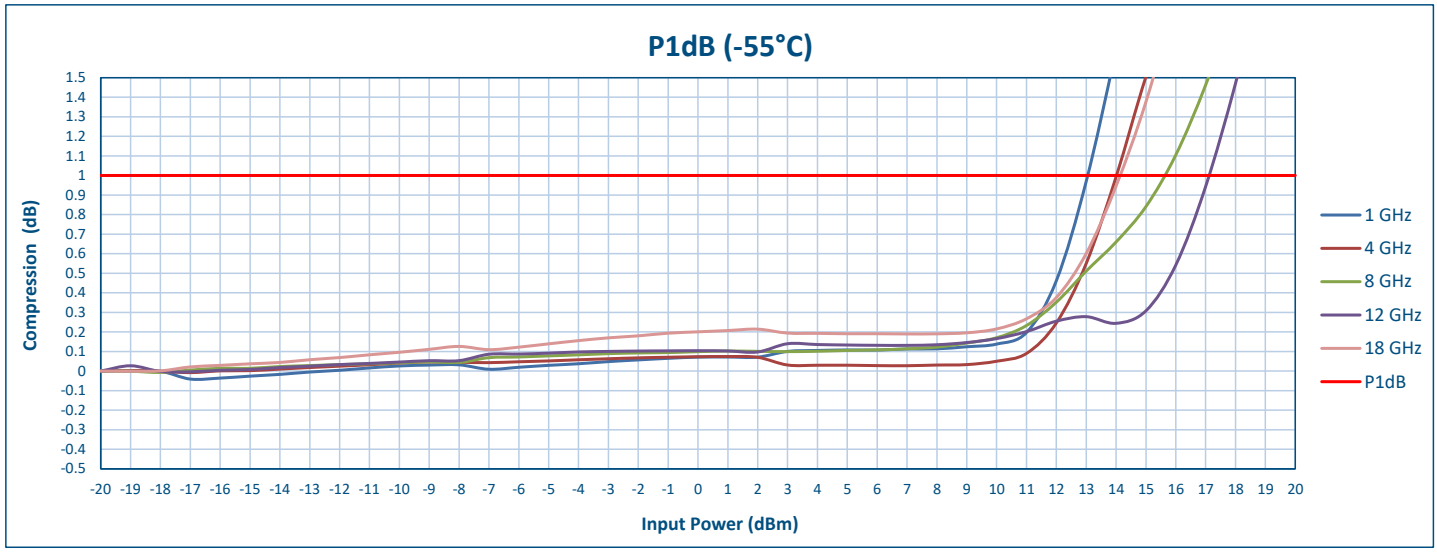

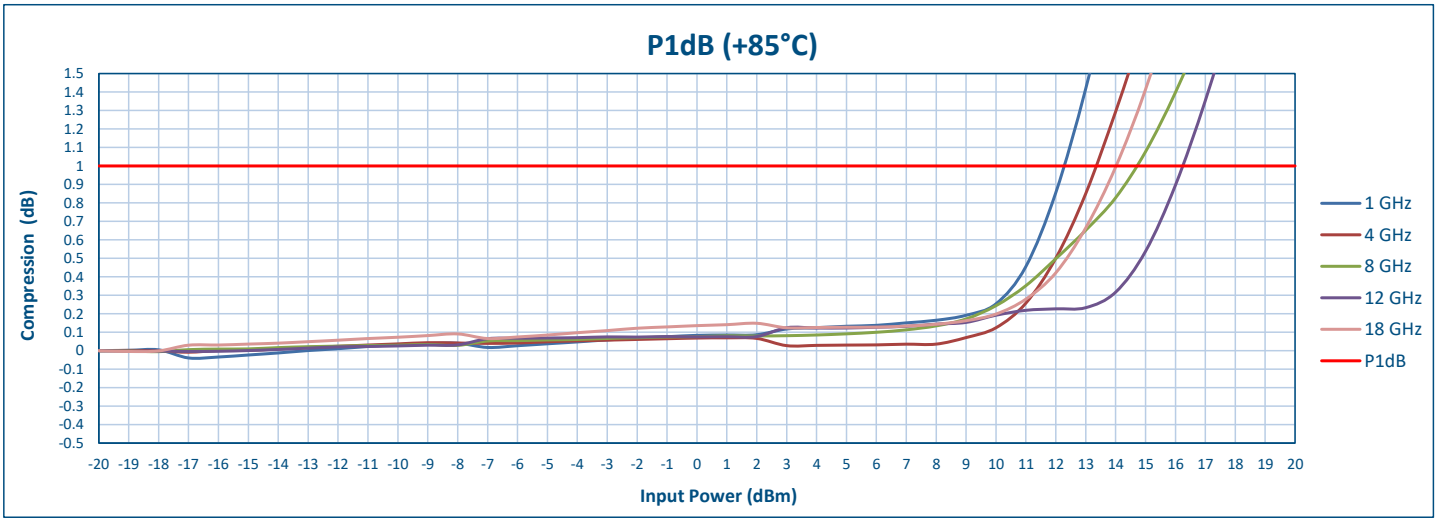

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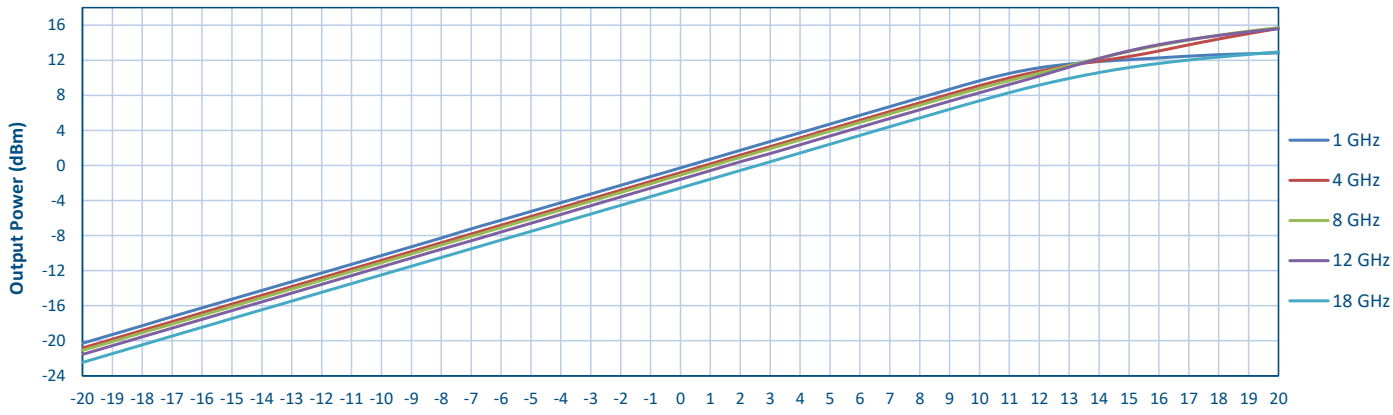
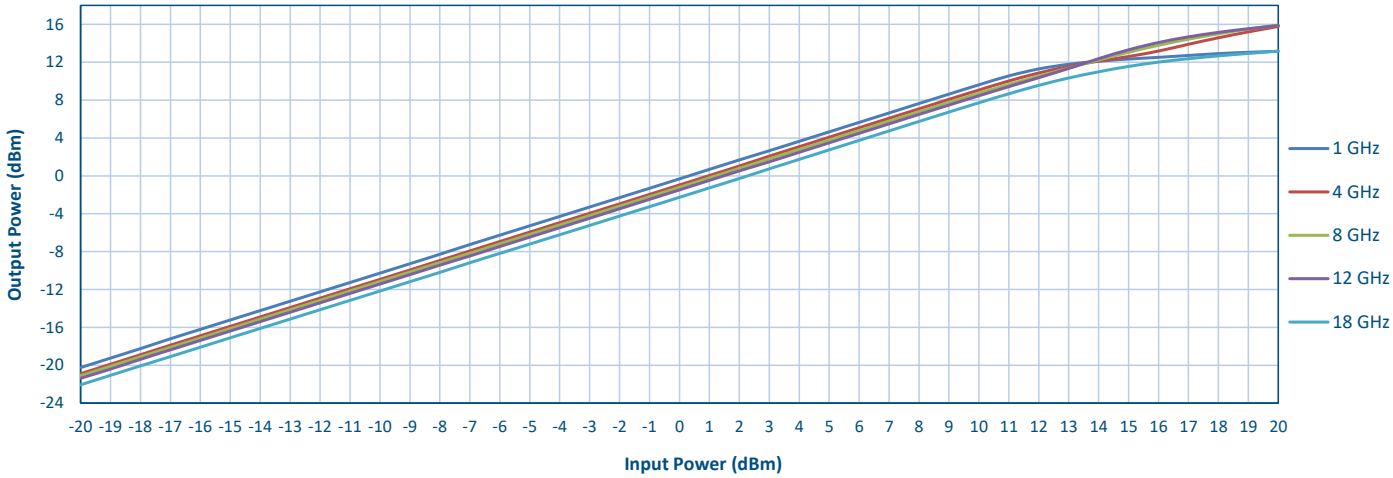
Typical Characteristics ON LM-118-100W-22DBM

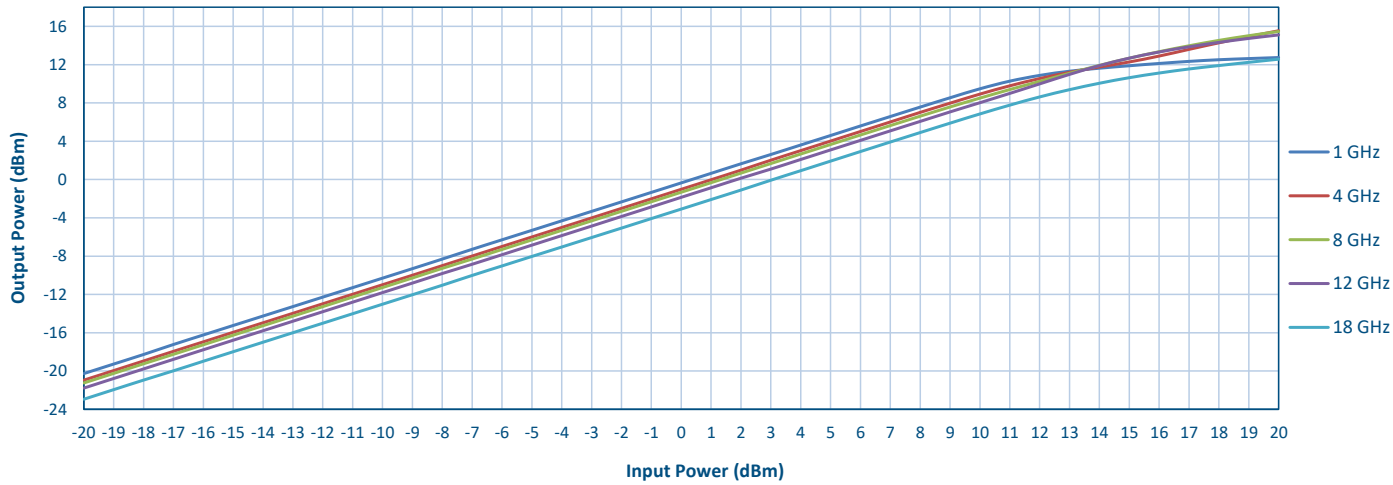
Response Limiting Curve Vs Frequency (+25°C)



Response Limiting Curve Vs Frequency (-55°C)



Response Limiting Curve Vs Frequency (+85°C)



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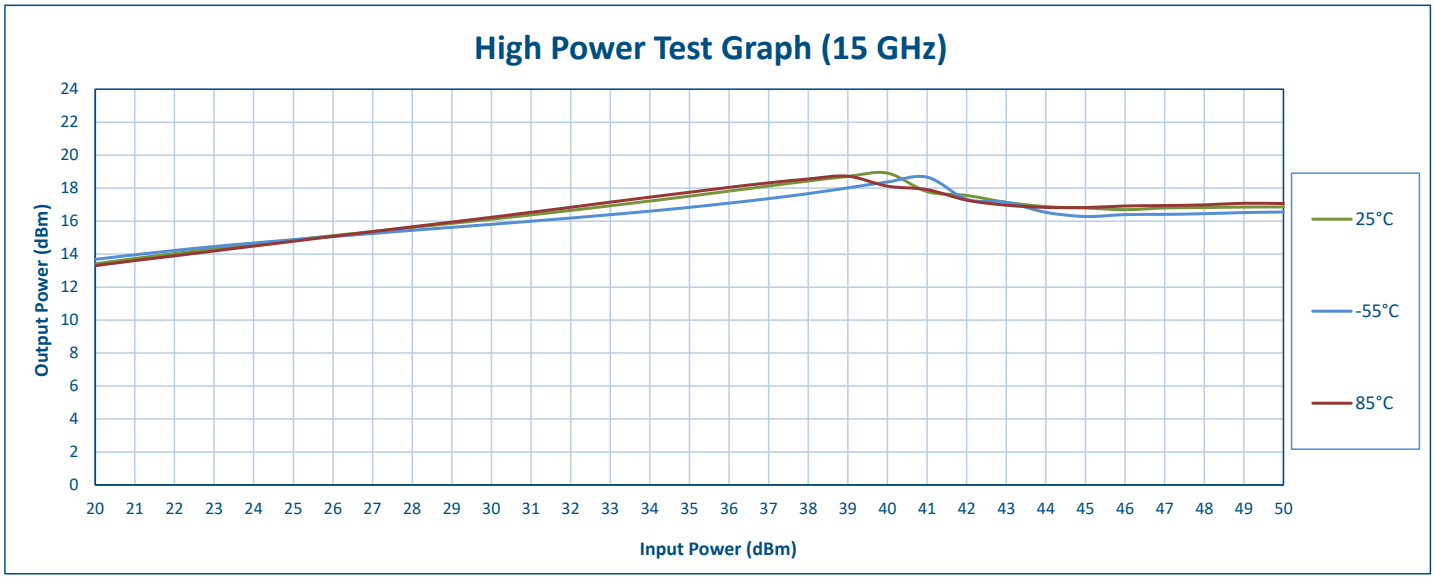
Typical Characteristics ON LM-118-100W-22DBM



Pulse Peak Power
250 Watts Input Power (2.4 GHz)
1µs PW, 0.1% Duty Cycle

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Typical Characteristics
ON
LM-118-100W-22DBM

Recovery time
100 Watts Peak Input Power
Frequency 2.4 GHz
1µs PW, 0.1% Duty Cycle

Measured value - 76.40 ns

Rise time
100 Watts Peak Input Power
Frequency 2.4 GHz
1µs PW, 0.1% Duty Cycle

Measured value - 38.0 ns

Full Pulse
100 Watts Peak Input Power
Frequency 2.4 GHz
1µs PW, 0.1% Duty Cycle

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