

**TYPICAL CHARACTERISTICS
ON
LM-20M18G-100W-15DBM-TH-OPT26**

THE MODEL PMI LM-20M18G-100W-15DBM-TH-OPT26 IS AN RF LIMITER THAT OPERATES IN THE RANGE OF FREQUENCIES FROM 2 GHz TO 6 GHz. THIS LIMITER CAN HANDLE UP TO 100 W CW FOR ALL TEMPERATURES (-55°C TO +85°C) THE ENERGY INPUT PROVIDES LEAKS OF +16 dBm MAX. THIS MODEL HAS A LOW INSERTION LOSS OF 1.3 dB AND A MAXIMUM 100ns RECOVERY TIME.



Tuesday, January 30, 2024
Designed and Reported By: M. Laulis
Tested By: John R.

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Outline Drawing

DESCRIPTION:

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SPECIFICATIONS:

- FREQUENCY RANGE:..... 2.0 TO 6.0 GHz
- RF POWER HANDLING:..... 100CW MAX
1KW PEAK MIN +85°C (1µs PULSE WIDTH, 0.1% DUTY CYCLE)
100W (1µs PULSE WIDTH, 1% DUTY CYCLE, 10 kHz)
100W (10 µs PULSE WIDTH, 0.1% DUTY CYCLE, 100 Hz)
100W (1µs PULSE WIDTH, 1% DUTY CYCLE, 1 kHz)
100W (40µs PULSE WIDTH, 10% DUTY CYCLE, 2.5 kHz)
- INSERTION LOSS:..... 1.3 dB MAX @ -10 dBm INPUT POWER
- RECOVERY TIME:..... 100ns MAX @ 100 W PEAK POWER
- LEAKAGE POWER:..... +15 dBm TYP, +16 dBm MAX AT 100 CW
- VSWR:..... 2.0 : 1 MAX @ -10 dBm INPUT POWER
- LIMITING THRESHOLD (P1dB):..... +5 dBm MIN
- CONNECTORS:..... INPUT: SMA MALE, OUTPUT: SMA FEMALE
- WEIGHT:..... 20g [0.705 oz] MAX
- SIZE:..... 15.88mm x 20.32mm x 10.16mm
0.625" x 0.80" x 0.40"
- FINISH:..... EXCLUDING CONNECTORS
PAINTED BLUE

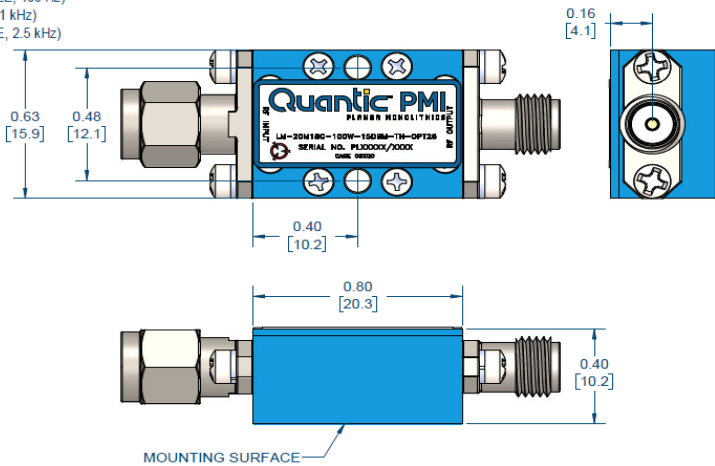
*NO DC BLOCKS ARE USED INSIDE THIS LIMITER

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -55°C TO +85°C (OPERATING)
-62°C TO +95°C (STORAGE)
- VIBRATION:..... 0.1 inchpp OR ± 10G, 5 ~ 500 Hz
(FIGURE 2, SHEET 1 OF 3, CURVE IV)
- HUMIDITY:..... MIL-STD-202, METHOD 103B COND. B
- SHOCK:..... MIL-STD-202, METHOD 213B COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE:..... MIL-STD-202, METHOD 107D COND. A

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

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	10/05/03	
	A2	ECN # 24-0026	01/01/2004	



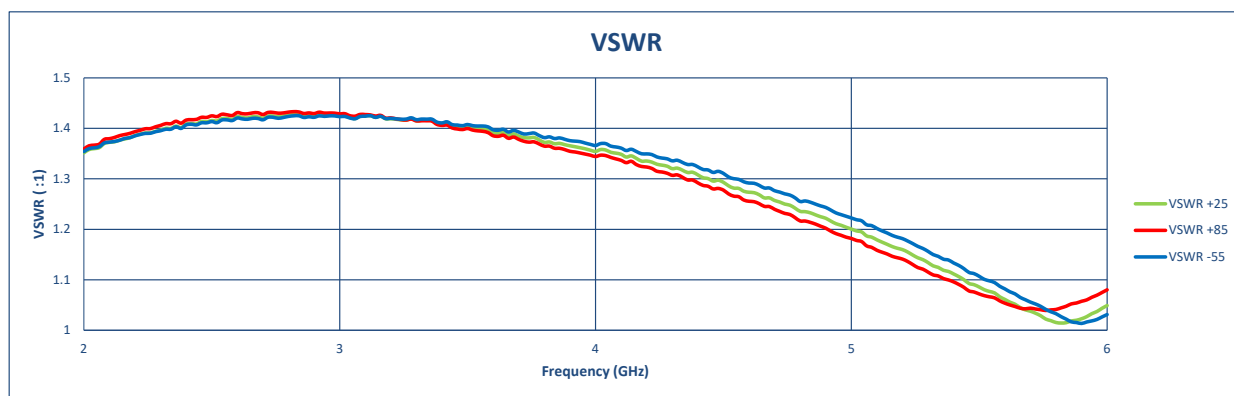
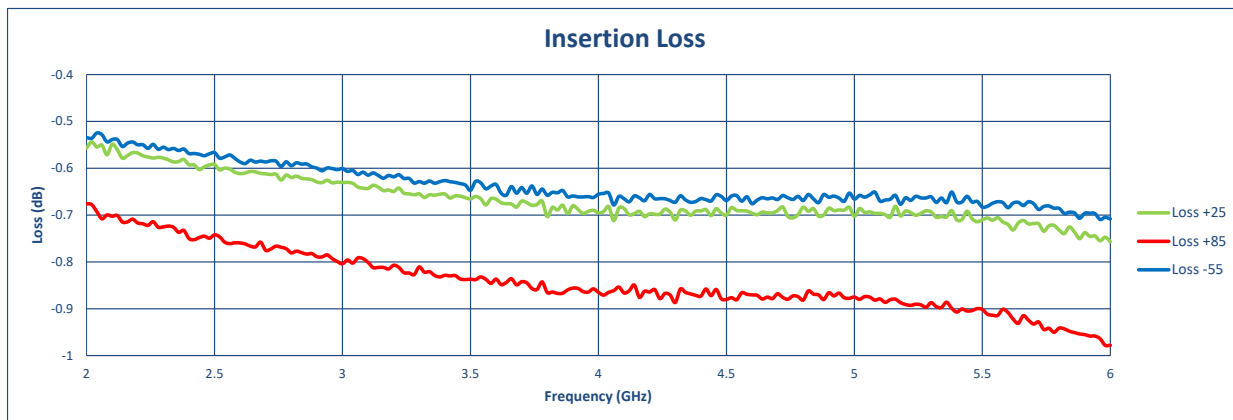
PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE	TITLE
DESIGN	M. LAULIS	10/05/03	OUTLINE
REDESIGN			
SECURED			
SIZE	B	55XQ20	27347120
SCALE	2:1		
			SHEET 1 OF 1

**TYPICAL CHARACTERISTICS
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TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results			QA QC
			+25°C	+85°C	-55°C	
1	Frequency Range:	2 GHz to 6 GHz	2 GHz to 6 GHz	2 GHz to 6 GHz	2 GHz to 6 GHz	
2	Insertion Loss:	1.0 dB Max. @ -10 dBm Input Power	0.76 dB See Graph	0.98 dB See Graph	0.71 dB See Graph	
3	VSWR:	2.0:1 Max. @ -10 dBm Input Power	1.43:1 See Graph	1.43:1 See Graph	1.43:1 See Graph	
4	RF Power Handling:	100 W CW Max.	100 W CW	100 W CW	100 W CW	
5		1kW PEAK MIN +85°C (1µs PULSE WIDTH, 0.1% DUTY CYCLE) 100W (1µs PULSE WIDTH, 1% DUTY CYCLE, 10 kHz) 100W (10 µs PULSE WIDTH, 0.1% DUTY CYCLE, 100 Hz) 100W (1µs PULSE WIDTH, 1% DUTY CYCLE, 1 kHz) 100W (40µs PULSE WIDTH, 1% DUTY CYCLE, 2.5 kHz)	1kW PEAK MIN +85°C (1µs PULSE WIDTH, 0.1% DUTY CYCLE) 100W (1µs PULSE WIDTH, 1% DUTY CYCLE, 10 kHz) 100W (10 µs PULSE WIDTH, 0.1% DUTY CYCLE, 100 Hz) 100W (1µs PULSE WIDTH, 1% DUTY CYCLE, 1 kHz) 100W (40µs PULSE WIDTH, 1% DUTY CYCLE, 2.5 kHz)			
6	Limiting Threshold:	+ 5 dBm MIN (1 dB Compression)	+ 9 dBm See Graph	+ 6 dBm See Graph	+ 11 dBm See Graph	
7	Leakage Power:	+15dBm TYP, +16dBm MAX @ 100 W CW	15.05 dBm	15.029 dBm	14.79 dBm	
8	Recovery Time (3dB) :	100 ns Max. 100 W Peak Power	63.5 ns			

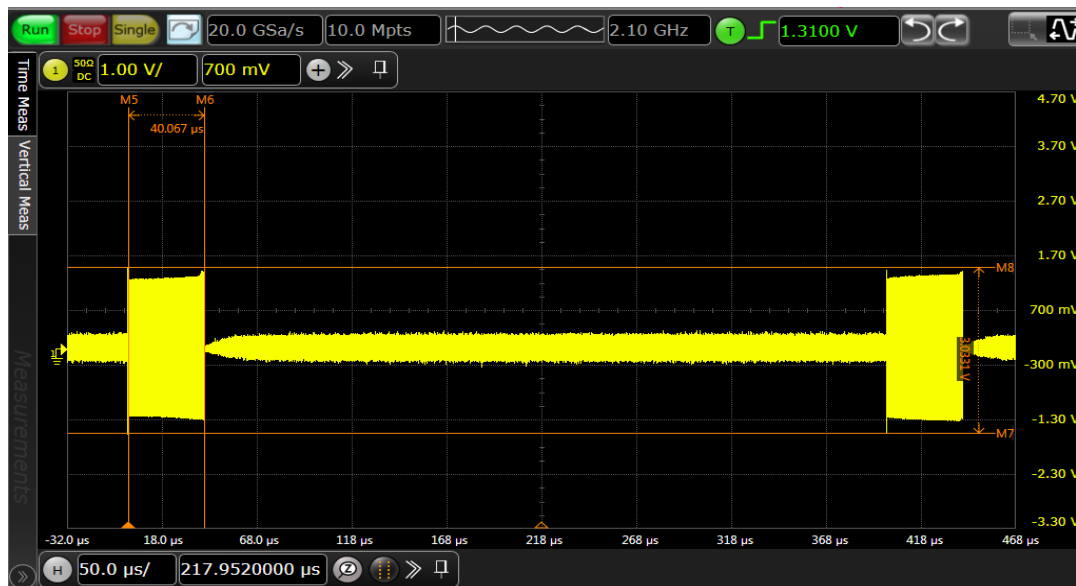
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Recovery Time

Full Pulse

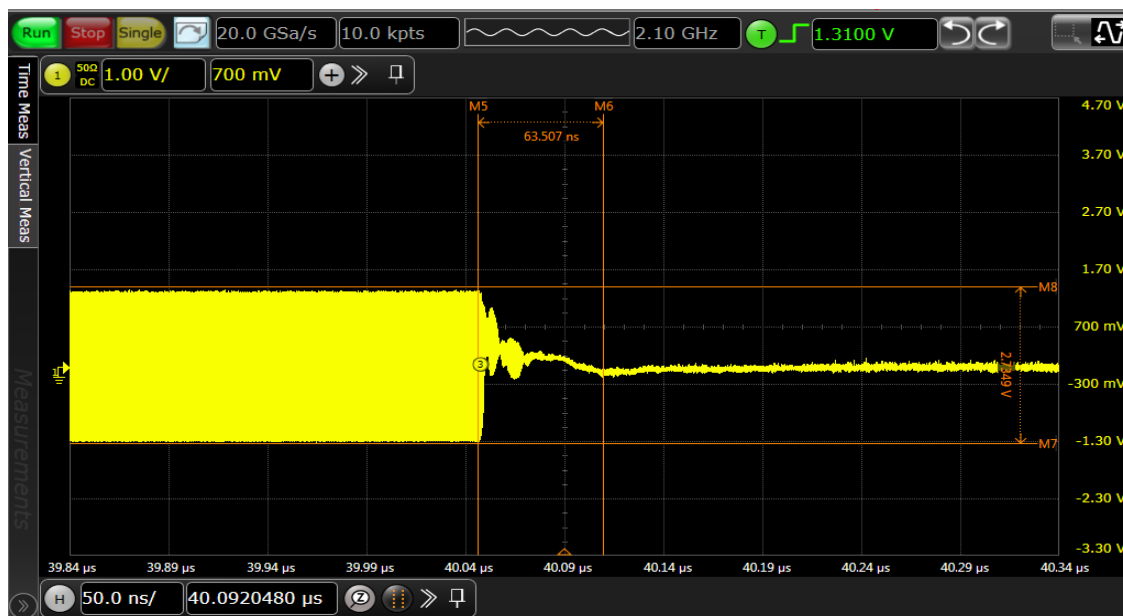
40 μ s Pulse 2.5 kHz PRF, 10% Duty Cycle



TYPICAL CHARACTERISTICS ON LM-20M18G-100W-15DBM-TH-OPT26

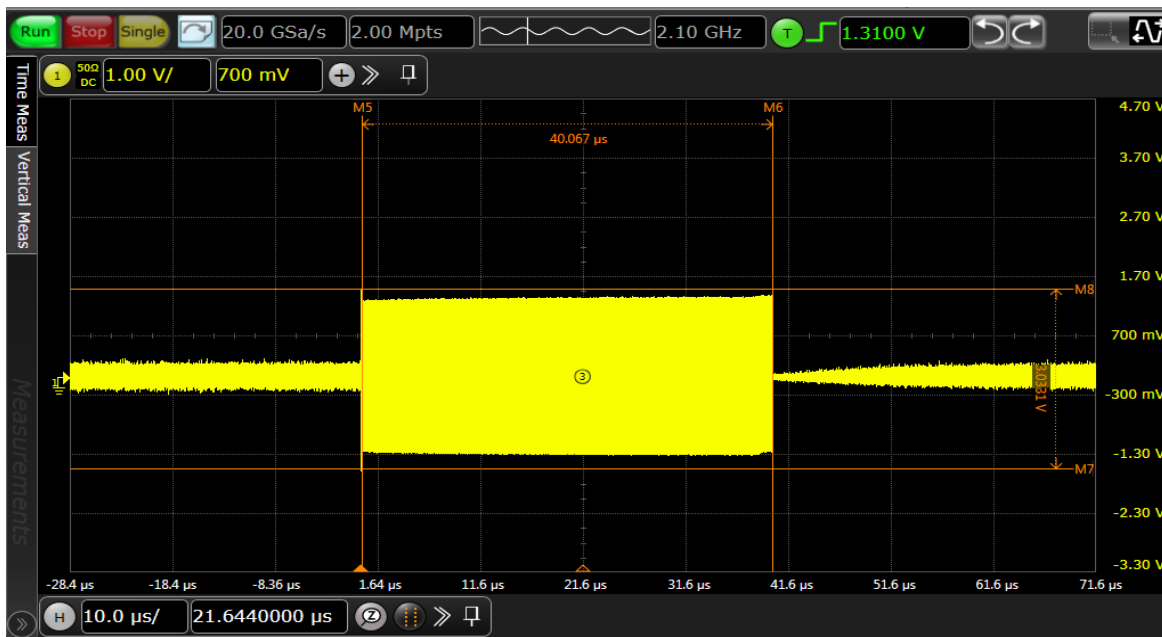
Recovery Time

40 μ s Pulse 2.5 kHz PRF, 10% Duty Cycle



Single Pulse

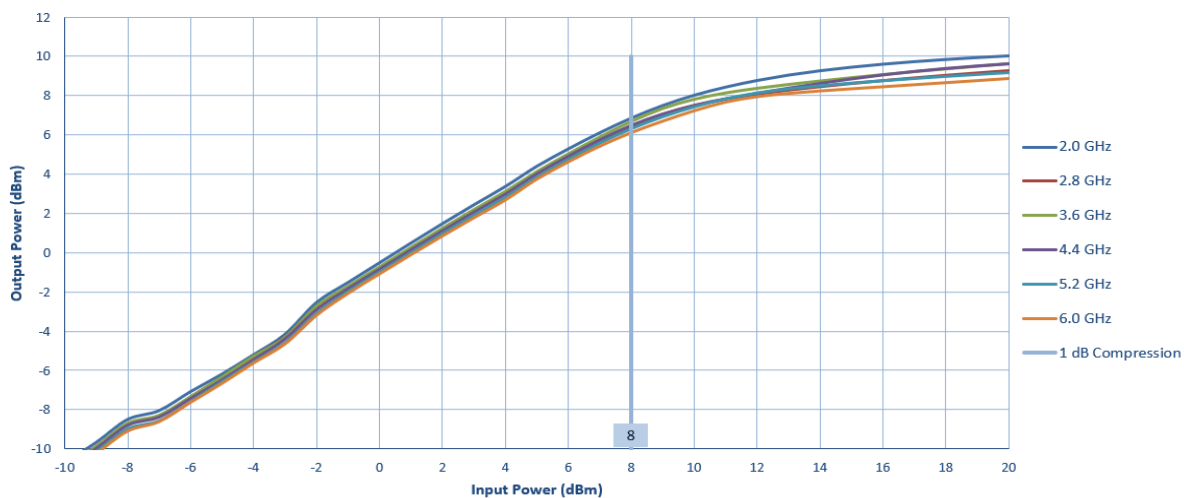
40 μ s Pulse 2.5 kHz PRF, 10% Duty Cycle



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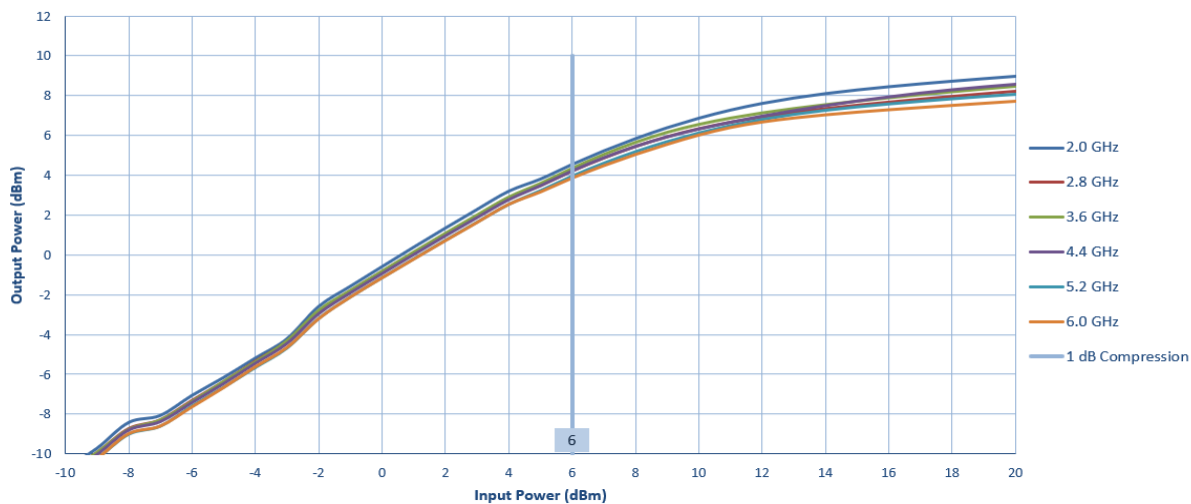
Limiter Response 25°C

Limiter Response with Frequency



85°C

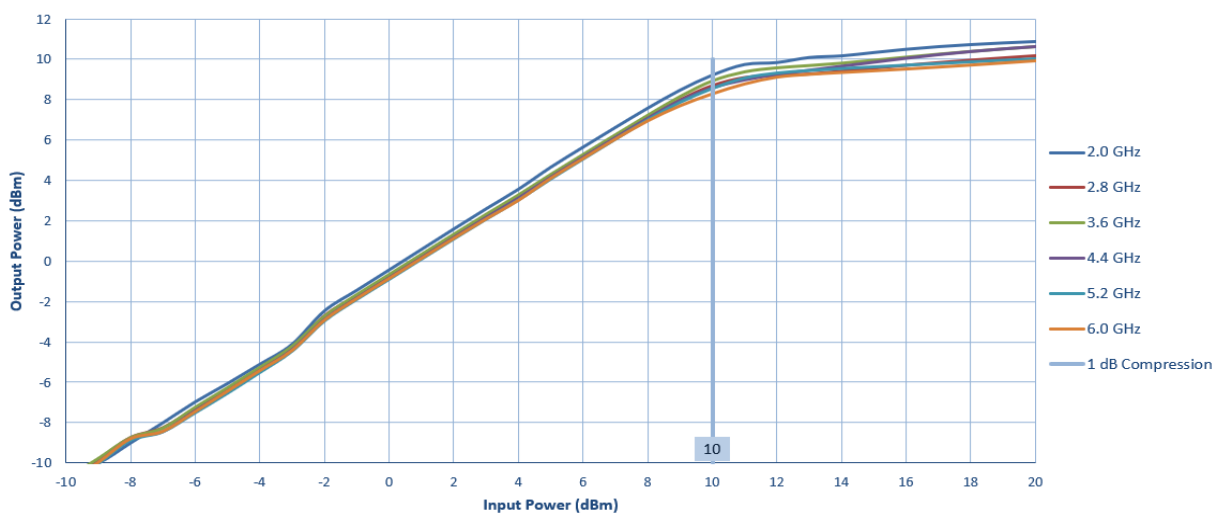
Limiter Response with Frequency



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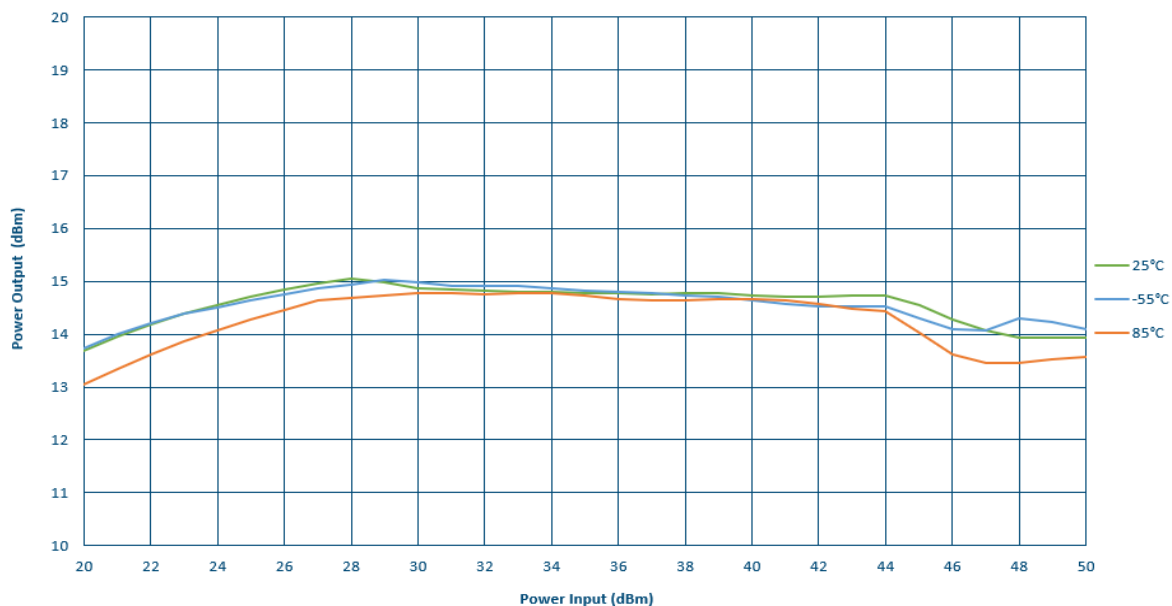
-55°C

Limiter Response with Frequency



Leakage Power

High Power Test Graph @ 2 GHz



TYPICAL CHARACTERISTICS ON LM-20M18G-100W-15DBM-TH-OPT26

High Power Test Graph @ 6 GHz

