

Avantek Products

Wideband Output Limiting Amplifiers 0.5 to 18.0 GHz

Technical Data

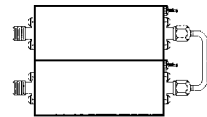
LMT and LWT Series

LMT and LWT — Wideband Output Limiting Amplifiers

Pin Configuration IC_, IS_, IX_



LC_, LS_, LX_



(See Section 5 for detailed case drawings.)

“30” Series; 35 dB Small Signal Gain¹

Guaranteed Specifications @ 25°C Case Temperature

Model	Frequency Response (GHz) Minimum	Small Signal Gain (dB)		Gain Flatness (±dB) Maximum	Saturated Output Power (dBm)		Noise Figure (dB) Maximum	VSWR		Input Power Current @ +12 V ¹⁰ Maximum (mA)	Case Type
		Minimum	Maximum		Min.	Max.		In	Out		
LWT-2034	0.5-2	35	40	1.5	+3	+7	3.5	2.0	2.0	250	IS4
LMT-4035	2-4	35	40	1.5	+7	+11	3.0	2.0	2.0	300	IS6
LWT-6034	2-6	35	40	1.5	+14	+18	4.0	2.0	2.0	300	IC4
LWT-8035	2-8	35	40	1.5	-16	+20	4.0	2.0	2.0	450	IC6
LMT-8033	4-8	35	40	1.5	-14	+17	4.5	2.0	2.0	300	IC4
LMT-12436	7-12.4	35	40	1.5	-14	-19	5.5	2.0	2.0	400	IX6
LMT-18036	12-18	35	40	1.5	-14	-19	6.0	2.0	2.0	400	IX6
LWT-18036	8-18	35	40	1.5	-14	-19	6.0	2.0	2.0	400	IX6
LWT-18636	6-18	35	40	1.5	+14	-19	6.0	2.0	2.0	400	IX6

Note:

1. Refer to the Product Options page, located at the beginning of this subsection, for a description of all available product options.

“40” Series; Nominal 70 dB Small Signal Gain¹

Guaranteed Specifications -54°C to +100°C Case Temperature

Model	Frequency Response (GHz) Maximum	Input Signal Range (dBm) Maximum	Saturated Output Power Range (dBm)		VSWR Maximum		Input Power Current @ +12 V ¹⁰ Maximum (mA)	Case Type
			Min.	Max.	In	Out		
LWT-2046	0.5-2	-61 to +20	+3	+7	2.0	2.0	600	LS12
LMT-4046	2-4	-57 to +20	+7	+11	2.0	2.0	700	LS12
LWT-6045	2-6	-50 to +20	+14	+18	2.0	2.0	600	IC6
LWT-8046	2-8	-55 to +20	+16	+20	2.0	2.0	900	LC12
LMT-8045	4-8	-50 to +20	+14	+17	2.0	2.0	625	IC6
LMT-12448	7-12.4	-50 to +20	+14	+19	2.0	2.0	900	LX16
LMT-18048	12-18	-50 to +20	+14	+19	2.0	2.0	900	LX16
LWT-18048	8-18	-50 to +20	+14	+19	2.0	2.0	900	LX16
LWT-18648	6-18	-50 to +20	+14	+19	2.0	2.0	900	LX16

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Other Specifications – Both “30” and “40” Series

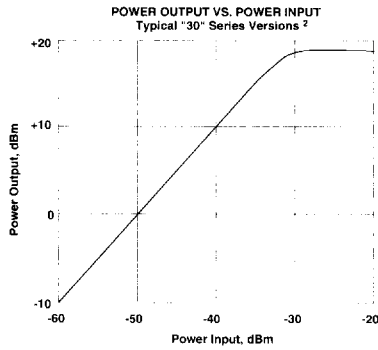
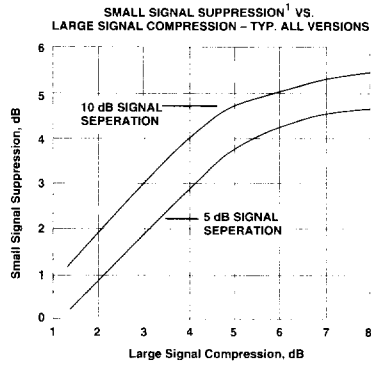
- Power output for 1 dB gain compression is a maximum of 4 dB below saturated power output at any frequency.
- Saturated power flatness is 2.0 dB p-p, maximum.
- Saturated power variation over temperature is 1.5 dB p-p, maximum.
- Maximum input power without damage: +20 dBm (CW).
- Harmonics: -9 dBc maximum (-6 dBc 2nd Harmonic, -8 dBc 3rd Harmonic — LWT-2034, LWT-2046) Up to +20 dBm input.
- Pulse response: Overshoot, 0.25 dB maximum.
Settling time, 25 ns maximum.
Recovery time, 100 ns maximum (to within 10% of small signal).
- Small signal suppression: 3 dB minimum with minimum 5 dB gain compression and minimum 10 dB signal separation.
- AM/PM conversion: 5°/dB maximum.
- Output noise power will be less than $P_{SAT}(\text{Min}) - 6$ dB for the “40” series.
- Units contain internal voltage regulator and operates with input voltage from +12 to +15 Vdc.

Note:

- Refer to the Product Options page, located at the beginning of this subsection, for a description of all available product options.

Performance Curves

Typical Performance at 25°C Case Temperature



NOTES:

1. SMALL SIGNAL SUPPRESSION IS DEFINED AS THE INCREASE IN THE POWER RATIO OF TWO SIGNALS AT THE OUTPUT OF THE LIMITING AMPLIFIER WITH RESPECT TO THE POWER RATIO AT THE INPUT.
2. THE SHAPE OF THE LIMITING CURVE IS TYPICAL OF ALL LMT/LWT SERIES AMPLIFIERS.