



DESCRIPTION

The LA10-1-525-40 is an LDMOS/MOSFET based amplifier that offers an incredible combination of performance and bandwidth. It requires only a power supply and heatsink to provide 10W over 1 to 525 MHz with only 0dBm input. Gold metallized MOSFETS (output) and LDMOSFETS (IPA) make this a rugged, multipurpose amplifier that can be used in both the laboratory and the field.

This true class A amplifier can be used in a variety of laboratory applications, and is suitable to be driven to full power from most signal generators. For communications use, it can be used to directly drive broadband antennas without requiring circulators or other isolation. Because the amplifier is inherently stable, a variety of multiplexers may also be driven directly.

The amplifier is certified for use over a broad range of supply voltages and exhibits stable operation from 22 to 32 V with only minimal affect on performance using lower voltages.

TECHNICAL SUMMARY

Frequency Range:	1 to 525 MHz
P1dB:	10 Watts CW
Class:	A
Supply Voltage:	28 V
Gain:	40 dB
Efficiency:	15 %
Temperature Range:	-20 to +60 °C
Max VSWR:	∞ : 1

ELECTRICAL SPECIFICATIONS

Parameter	Min	Typ	Max	Units	Notes
Frequency	1		525	MHz	
P1dB	10			W, CW	
Psat		20		W, CW	
Linear Power Out	10			W	
IMD3	-30			dBc	For 2 tones, 10kHz spacing, 10W PEP
Power Input		-2		dBm	For 10W output
Gain	40	42		dB	10W output
Vsupply	20		32	V, DC	
Drain Current		2.4	3.0	A, DC	10W output
Input VSWR			1.5:1		
Insertion Phase Variation		±5		°	Unit to unit
Gain Variation			±1.5	dB	Unit to unit
F2 Second Harmonic		-25		dBc	
F3 Third Harmonic		-25		dBc	
Operating Temperature	0		+60	°C	
Physical Dimensions					2.4" x 4.0" x 1.1"

All specifications valid for 50 Ω output load, $V_{sup} = +28VDC$, $I_{dq} = 2.4A$

ABSOLUTE MAXIMUM RATINGS

Parameter	Value	Units	Notes
Maximum Operating Voltage	32	V, DC	
Stable Operating Voltage	22 to 32	V, DC	
Maximum Bias Current, Q101	0.5	A, DC	
Maximum Bias Current, Q102	2.0	A, DC	
Maximum Drain Current	3.0	A, DC	
Load Mismatch Survival	∞		
Storage Temperature	-40 to +105	°C	
Max Operating Baseplate Temperature	+60	°C	

FEATURES

- Optional amplifier disable function
- Optional high side current sense