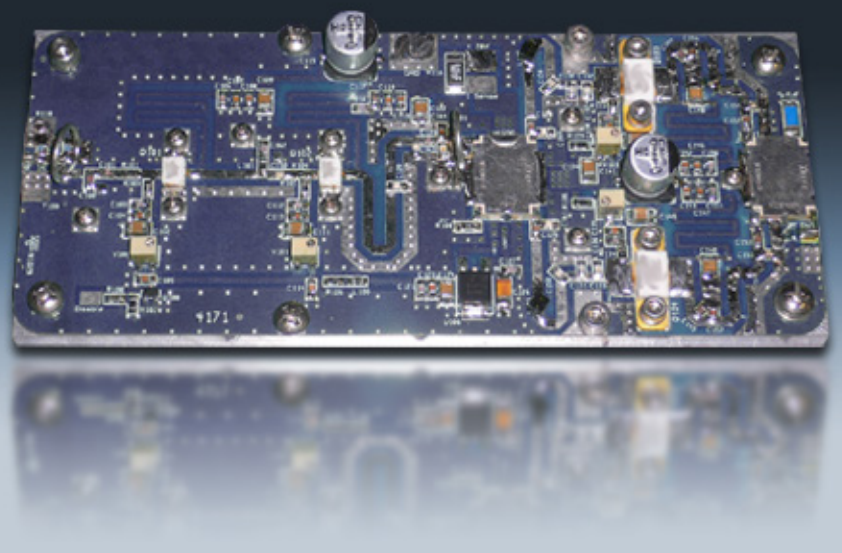
PowerVision

PA10-UHF-40

10W UHF TV Pallet Amplifier / Driver



DESCRIPTION

The PA10-UHF-40 is a three stage ultra-linear class A integrated amplifier designed for the television integrator. This fourth generation LDMOS-powered amplifier is designed to satisfy both digital and analog applications. Providing a minimum of 7W pk ultra linear power, this is the perfect preamplifier for any broadband UHF transmitter. Featuring quadrature input and output combining, this amplifier is isolated from most external circuit problems.

- No RF assembly or circuit tuning
- 10 watts of linear output power
- 40dB typical gain at channel 69
- Combined video and aural at full rated power
- Proper heatsinking required

TECHNICAL SUMMARY	
Frequency Range:	470 to 860 MHz
P1dB:	25 Watts CW
Class:	A
Supply Voltage:	32 V
Gain:	40 dB
Efficiency:	10 %
Temperature Range:	-18 to +65 °C
Max VSWR:	10 : 1

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Technical Specifications

ELECTRICAL SPECIFICATIONS

Parameter	Min	Typ	Max	Units	Notes
Frequency	470		860	MHz	
P1dB	25			W, CW	
Linear Power Out	8	10		W	
IMD3		-45		dBc	For 2 tones, 1MHz spacing, 10W PEP
Power Input		1		W, CW	
Gain	39	40.5		dB	
Vsupply		32		V, DC	
Drain Current		2.75		A, DC	
Input VSWR		1.2:1	1.5:1		
Output VSWR			1.5:1		
Gain Variation		±1.5		dB	Unit to unit
F2 Second Harmonic		-30		dBc	
F3 Third Harmonic		-20		dBc	
Operating Temperature	-18		+65	°C	
Physical Dimensions				2.5” x 6.0” x 0.7”	

All specifications valid for 50 Ω output load, V_{sup} = +32VDC, I_{dq} = 2.75A

ABSOLUTE MAXIMUM RATINGS

Parameter	Value	Units	Notes
Maximum Operating Voltage	34	V, DC	
Stable Operating Voltage	28 to 32	V, DC	
Maximum Bias Current, Q1	0.5	A, DC	Factory set to 0.25A
Maximum Bias Current, Q2	0.5	A, DC	Factory set to 0.50A
Maximum Bias Current, Q3, Q4	2.00	A, DC	Factory set to 1.00A
Maximum Drain Current	3.0	A, DC	
Load Mismatch Survival	3:1		
Storage Temperature	-40 to +105	°C	
Max Operating Baseplate Temperature	+70	°C	

FEATURES

- Current sense, each transistor
- Connectorized power and I/O
- TTL compatible disable

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