

Very Efficient Power Amplifier

(VEPA-10W)

10 W Linear, 20 W Non-Linear

June 2016 Data Sheet

Applications

- UAV/UGV Transmission
- Airborne Surveillance & Data Links
- COFDM Transmission
- FM Transmission
- Mobile and Portable Applications
- Electronic News Gathering (ENG)

Key Features

- Very Efficient
- High Linearity
- Adjustable Gain
- Local – Rotary Switch
- Remote Control
- 9-32 VDC Supply Voltage
- Compact and Lightweight



DTC's Very Efficient Power Amplifier (VEPA) series is specifically designed for COFDM and other demanding modulation schemes. However, they can also be used for non-linear modulation schemes like FM. This 31 W P1dB Power Amplifier provides up to 10 Watts of COFDM power or 20 Watts of FM power in a small economical package.

This Linear Class A Power Amplifier provides a maximum of 41 dB of gain. The Gain can be adjusted down from this point from 0 to 15 dB in 1 dB steps. A rotary switch on the housing can be used for local gain control and a 6 pin LEMO connector allows remote control via BCD logic grounding through an external cable.

These units are designed for rugged use and operate from -10°C to +65 °C with up to 95% humidity (non-condensing). The unit has reversed polarity protection and open/short load protection.

Specifications subject to change without prior notice Typical values shown unless min or max is specified 100-DS0334X2 18APR12

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Specifications

Parameter		Specification			
Frequency (GHz)		1.7 - 1.85	2.2-2.4	1.99-2.5	2.2-2.7
Frequency Band		L2	S1	S2	SK
Linear Gain (dB center band with attenuator set to 0). (gain is adjustable through front panel switch or remote control) ¹		45	41.5	41.5	44.5
Gain Adjustment Range (dB)		0 to -15	0 to -15	0 to -15	0 to -15
Adjustment Resolution (dB)		1	1	1	1
Flatness (dB)		+/- 0.75	+/-0.5	+/-0.7	+/- 0.7
P1dB (dBm)		45	45	45	45
Input/Output VSWR ⁴		1.5:1/1.3:1	1.3:1	1.4:1	1.4:1
Rated COFDM Output PWR		10W	10W	10W	10W
Rated FM Output PWR		20W	20W	20W	20W
MER Stationary QPSK (dB) ³	8 W	31	31	30	31
	10W	28.5	29	28	28.5
Current (A@ 12 VDC) ³	8 W COFDM	3.2	3.7	3.7	3.6
	10W COFDM	3.6	4.1	4.1	4.0
	20 W FM	5.7	6.5	6.5	6.4
Efficiency (%)	10W COFDM	23	21	20	21
	20 W FM	28	25	25	25
DC input voltage (Vdc)		9-32			
Mechanical Dimension (without heatsink)		7.5"L x 4"W x 0.79"H			
Weight	lbs.	1.62			
	grams	735			
Base-plate Temperature		-10 °C to + 65			
Operating Humidity		95% Non-condensing			
		ODU-G50LOC-P06LCC0-0000			
Control Connector (Pins 1 through 5 enable low)		Pin 1: 1dB Pin 2: 2dB Pin 3: 4dB Pin 4: 8dB Pin 5: NC pin 6: GND			
DC Power Connector		Solder pins			
RF Connectors		SMA Female			

¹ Average gain among units at the center of the band. See graphs for more details.

² 90th Percentile (90th percent of test samples are equal to or better than this value).

³ Typical value across the band (the average value of the 10th and 90th percentile i.e. the average of the data sample after the best and worst 10% of data samples are discarded)

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