

Revision 0.a Release Date April 2008

Revision Notes Initial release

Technical Specifications Summary

Frequency Range: 300 - 350 MHz
Pout: 250 Watts CW
Class: C
Supply Voltage: 28V DC

Gain: 15dB
Efficiency: 55%
Temperature Range: -20 to 55°C
Max VSWR: 3:1

Amplifier General Description

The P250-300-350-15 amplifier is designed specifically for STL applications in the 300 -350 MHz band. Offering unmatched power density, excellent efficiency and gain, this robust pallet will directly drive an antenna.

Amplifier Picture

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Parameter	Min	Typ	Max	Units	Notes
Frequency	300		350	MHz	
Pout	250	300		W, CW	
Psat		350		W, CW	
Power Input				W, CW	
Gain		15		dB	
Vsupply	26		28	V, DC	
Drain Current		16		A, DC	
Efficiency		55		%	
Input VSWR		1.5:1	2:1		
Insertion Phase Variation		5		°	Unit to unit
Gain Variation		±1.5		dB	Unit to unit
F2 Second Harmonic		-30		dBc	
F3 Third Harmonic		-20		dBc	
Baseplate Operating Temperature	-20		55	°C	

Physical Dimensions 2.75 x 6.3 x 1.5
 All specifications valid for 50 Ω output load, $V_{sup} = +28VDC$, $I_{dq} = 0.4A$

Absolute Maximum Ratings

Parameter	Value	Units	Notes
Maximum Operating Voltage	30	V, DC	
Stable Operating Voltage	26 - 28	V, DC	
Maximum Bias Current, Q100	2.0	A, DC	
Maximum Drain Current	50	A, DC	
Load Mismatch Survival	3:1		
Storage Temperature	-40 to 85	°C	
Maximum Operating Baseplate Temp	55	°C	

Features, Auxillary Functions

- ◆ Temperature Compensated Bias
- ◆ Temperature Controller - Analog Temperature Output
- ◆ High Temperature Alarm with Selectable Automatic PA Disable
- ◆ High Temperature Alarm Output
- ◆ Amplifier Disable
- ◆ Current Sense
- ◆ Connectorized Power and I/O



Ordering Information:

Order Code	Description	DRFT Reference
P250-300-350-15	250W STL Class C amplifier, 300 - 350 MHz	5206

Options

-A11	SMA Female Connectors In / Out	0201
-A12	Heat Sink Option	0202
-A13	Heat Sink Option with DC Fan, pre wired	0203
-A14	Ruggedized for vibration	0204
-A15	Wire harness, 1' length, 10 wires for pallet amplifier only (NON-FM)	0205
-A16	Wire harness, customer specified length for pallet amplifier only	0206
-T2	Extended Burn In	0271
-T3	Extended Data Collection	0272

Standard Pallet Options:

SMA Female Connectors, Input and Output. Stainless Body, Gold Center pin, 4-hole SMA bolted to pallet amplifier edge through bottom two holes located at amplifiers RF IN and RF OUT locations. All stainless steel hardware.

Enclosure- all aluminum machined enclosure available for most pallet amplifiers. Alodined aluminum, alloy 6061-T6. SMA Female input and output RF connectors. Supply voltage and ground through solder / feedthrough connections. Module must be bolted to appropriate heatsink.

Heat Sink - aluminum extruded heat sink, black anodized. Pallet amplifier or module will be bolted to heatsink. Customer will be required to provide adequate airflow.

Heat sink with fan - aluminum extruded heat sink as above, with included fan bolted to push air through the heat sink. Depending on heat requirements, a second fan may also be provided on the output of the unit.

Ruggedized - all screws have threadlocking compound applied, and all flying components are staked and attached to base. Designed to withstand MIL-STD-810E 514.4 Category 8.

Power Connector - a 10 pin molex connector is used on all standard pallet amplifiers to supply +Vsup and Ground connections, as well as hi-side current shunts for current monitoring. Delta RF offers the mating connector with 1' wires - Red (Vsup), Black (Ground), Yellow (Current monitor). All wires are 18 gauge teflon insulated wires. Customer may optionally specify wire length and wire color.

Testing Options:

Standard - includes power test and brief burn - in under laboratory conditions. Printed test report gives graph of Gain and Input Return Loss at rated P1dB and Voltage Conditions. Report shows pass/fail criteria. All amplifiers include this test.

Extended burn in - 8-hour burn in at P1dB with standard test run at completion. Unit is monitored during test and any discrepancy reported. Standard test data is included.

Extended data collection - Standard data is run and included. Detailed data is taken point by point giving the customer 25 - 70 frequency points, depending on the amplifier model. For each frequency point, data is generated to include gain, input power, input return loss, current, second harmonic, third harmonic, efficiency, audio distortion.

Other tests available - Vibration, Temp cycling, Shock. Please inquire.

The specifications contained herein are subject to change without notice. Delta RF Technology, Inc. assumes no liability for the use of this information.

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