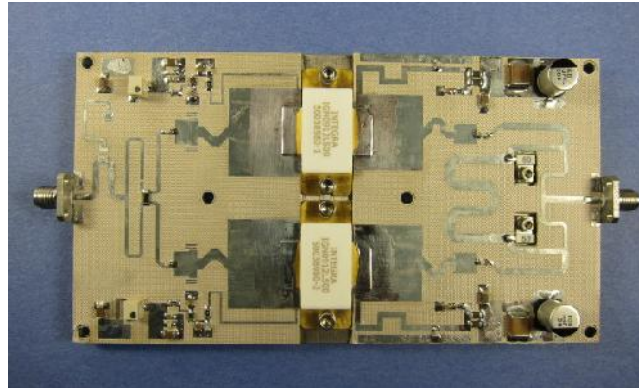


Avionics L-Band Pallet

Part number IGNP0912L1KW is a 50 Ω matched GaN-based high power pulsed pallet amplifier for L-Band avionics systems operating over the instantaneous bandwidth of 0.960-1.215 GHz. The pallet amplifier supplies a minimum of 1000 watts of peak pulse power under the conditions of 2.5ms pulse width and 20% duty cycle. All devices are 100% screened for large signal RF parameters.



GaN on Silicon Carbide FET

- High Power Gain
- Excellent Thermal Stability
- Gold Metal

Depletion Mode Device

- Negative Gate Voltage to Bias
- Bias Sequencing Required
- See App Note to Prevent Damage

Gold Metal System

- Maximum Reliability

Class AB Operation

Pallet Carrier

- Nickel-Plated Aluminum

TYPICAL DATA

TYPICAL DATA

TYPICAL DATA

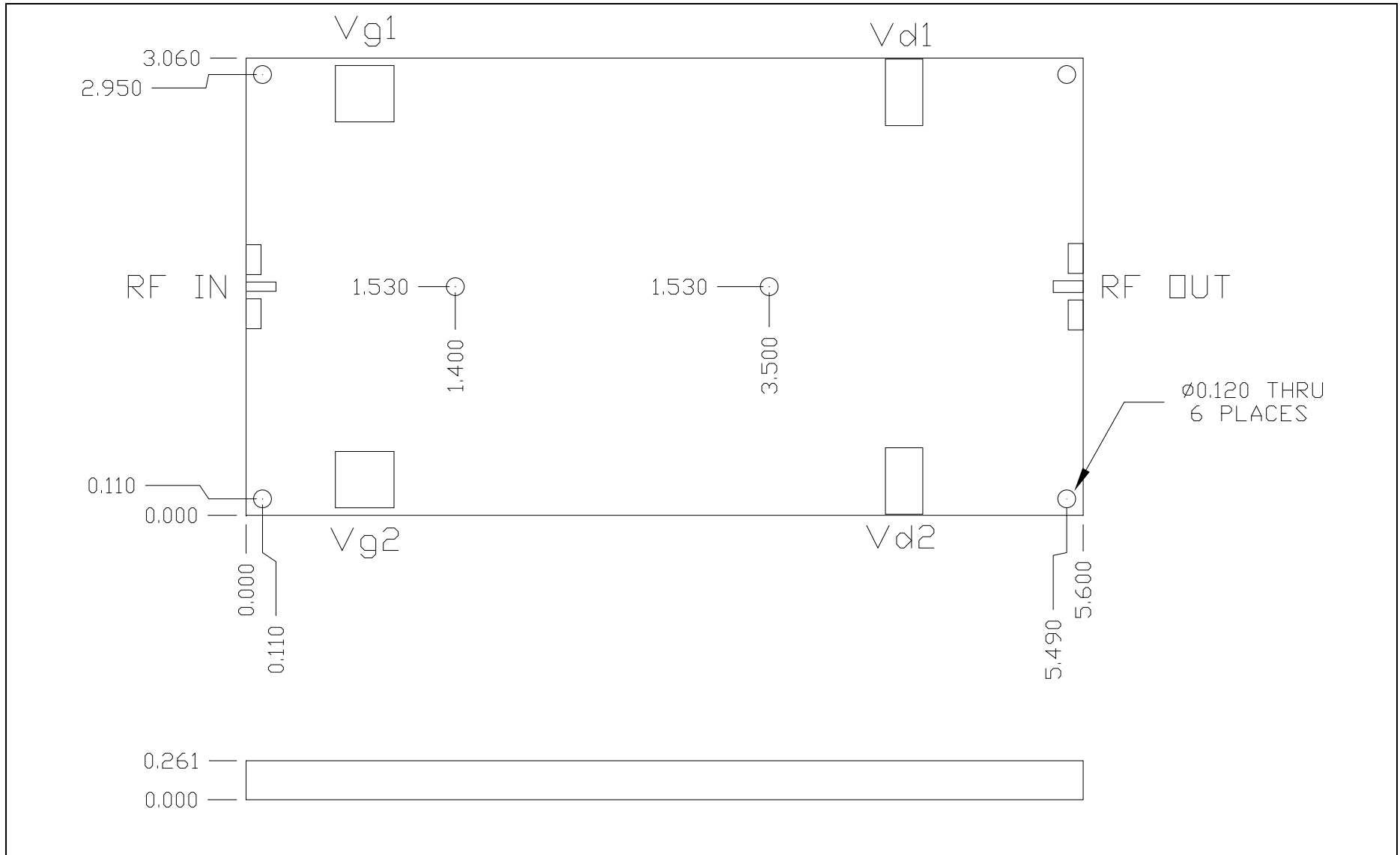
Pallet	Freq (GHz)	V _{dd} (V)	P _{IN} (W)	IRL (dB)	P _{OUT} (W)	G _P (dB)	I _d (A)	d (%)	Droop (dB)
50037672	0.960	50	38	18.2	1141	14.8	35.2	64.8	-0.70
	1.090	50	38	12.8	1076	14.5	38.8	55.4	-0.78
	1.215	50	38	27.5	1050	14.4	37.4	56.2	-0.71

Pulse: 2.5ms/20%. I_{DQ}=200mA

RF ELECTRICAL CHARACTERISTICS

Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
100%	Input Return Loss	IRL	10	--	dB	$V_{DD}=V1, I_{DQ}=I_{DQ1}, PW=PW1, DF=DF1, T_F=25\pm5^\circ C, P_{IN}=P_{IN1}, F=F1, F2, F3.$
100%	Output Power	P_{out}	1000	--	W	$V_{DD}=V1, I_{DQ}=I_{DQ1}, PW=PW1, DF=DF1, T_F=25\pm5^\circ C, P_{IN}=P_{IN1}, F=F1, F2, F3.$
100%	Power Gain	G_P	14.2	--	dB	$V_{DD}=V1, I_{DQ}=I_{DQ1}, PW=PW1, DF=DF1, T_F=25\pm5^\circ C, P_{IN}=P_{IN1}, F=F1, F2, F3.$
100%	Efficiency ($P_O/I_D/V_{DD}$)	N_D	52	--	%	$V_{DD}=V1, I_{DQ}=I_{DQ1}, PW=PW1, DF=DF1, T_F=25\pm5^\circ C, P_{IN}=P_{IN1}, F=F1, F2, F3.$
100%	Peak Current	I_d	--	50	A	$V_{DD}=V1, I_{DQ}=I_{DQ1}, PW=PW1, DF=DF1, T_F=25\pm5^\circ C, P_{IN}=P_{IN1}, F=F1, F2, F3.$
100%	Pulse Amplitude Droop	Droop	-0.9	--	%	$V_{DD}=V1, I_{DQ}=I_{DQ1}, PW=PW1, DF=DF1, T_F=25\pm5^\circ C, P_{IN}=P_{IN1}, F=F1, F2, F3.$
100%	Load Mismatch Stability	VSWR-S	--	1.5:1	--	$V_{DD}=V1, I_{DQ}=I_{DQ1}, PW=PW1, DF=DF1, T_F=25\pm5^\circ C, P_{IN}=P_{IN1}, F=F1, F2, F3.$ Rotate 1.5:1 output VSWR through 360° phase. No oscillatory or pulse break-up characteristics allowed on detected output pulse. All non-harmonically related signals must be at least -65 dBc.
100%	Load Mismatch Tolerance	LMT	--	3:1	--	$V_{DD}=V1, I_{DQ}=I_{DQ1}, PW=PW1, DF=DF1, T_F=25\pm5^\circ C, P_{IN}=P_{IN1}, F=F1, F2, F3.$ Rotate 3:1 output VSWR through 360° phase. Post test $P_O =$ Pre test $P_O \pm 5W$
Note 1	$V1 = 50V; I_{DQ1} = 200mA; PW1 = 2.5ms; DF1 = 20%, P_{IN1} = 38W.$					
Note 2	Test Frequencies: F1 = 0.960 GHz, F2 = 1.090 GHz, F3 = 1.215 GHz.					
Note 3	$T_{F1} = 25\pm5^\circ C =$ Device flange temperature.					
Note 4	Screen 'BD' = parameter qualified By Design.					

PALLET DIMENSIONAL OUTLINE DRAWING



Data Sheet Status	
Proposed Specification	This data sheet contains proposed specifications.
Preliminary Specification	This data sheet contains specifications based on preliminary measurements and data.
Product Specification	This data sheet contains final product specifications.
Maximum Ratings	
Stress above one or more of the maximum ratings may cause permanent damage to the device. These are maximum ratings only. Operation of the device at these or at any other conditions above those given in the characteristics sections of the specification is not implied. Exposure to maximum values for extended periods of time may affect device reliability.	

DISCLAIMER

Integra Technologies Inc. reserves the right to make changes without further notice to any products herein. Integra Technologies Inc. makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Integra Technologies Inc. assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Integra Technologies Inc. products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Integra Technologies Inc. customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Integra Technologies Inc. for any damages resulting from such improper use or sale.