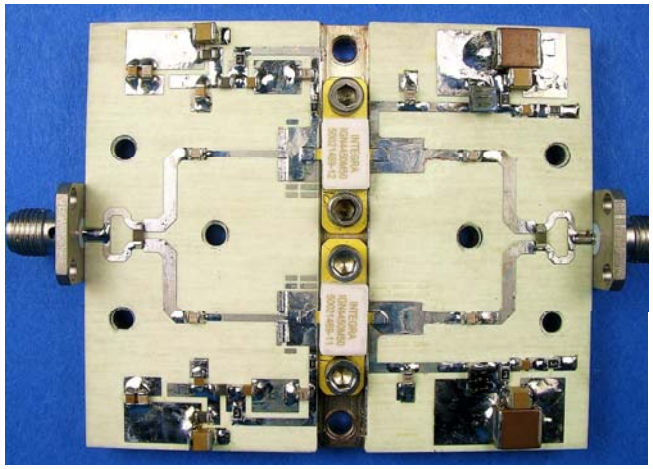
Part Number: IGNP4450M100

Integra
TECHNOLOGIES, INC.

C-Band Radar Pallet

Part number IGNP4450M100 is a 50 Ω matched GaN-based high power pulsed radar pallet amplifier for C-Band radar systems operating over the instantaneous bandwidth of 4.4-5.0 GHz. The pallet amplifier supplies a minimum of 100 watts of peak pulse power under the conditions of 300µs pulse width and 10% duty cycle. All devices are 100% screened for large signal RF parameters.



GaN pHEMT Technology
- Ultra-high f_T

Pulsed Operation

Class AB Operation
- High Efficency

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

Gold Metal System
- Maximum Reliability

Pallet Carrier
- Nickle Plated Copper

TYPICAL DATA TYPICAL DATA TYPICAL DATA TYPICAL DATA

Device	Freq (GHz)	V_{CC} (V)	P_{IN} (W)	IRL (dB)	P_{OUT} (W)	G_P (dB)	I_C (A)	η_C (%)	Droop (dB)
	4.40	36	4.0	13.8	105.3	14.20	5.62	46.8	-0.16
D5548-1	4.70	36	4.0	14.5	111.2	14.44	6.16	45.1	-0.16
	5.00	36	4.0	12.9	114.4	14.56	5.84	49.0	-0.14

Pulse: 300µs / 10%. I_{DQ}=80mA

www.integratech.com
PHONE: 310-606-0855
FAX: 310-606-0865

INTEGRA TECHNOLOGIES, INC.
321 CORAL CIRCLE
EL SEGUNDO, CA 90245-4620

RF ELECTRICAL CHARACTERISTICS

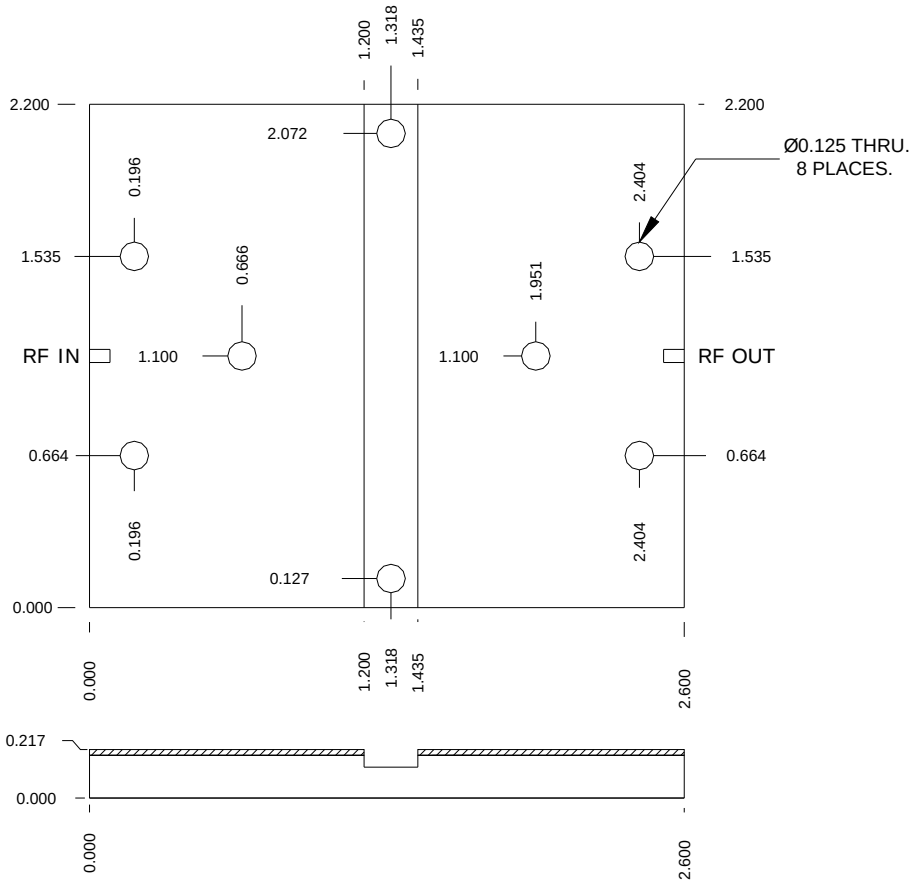
Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
100%	Input Return Loss	IRL	10	--	dB	V_{CC}=V1, IDQ1=80mA, PW=PW1, DF=DF1, T_F=25±5°C, P_{IN}=4W, F=F1, F2, F3.
100%	Output Power	P_{out}	100	--	W	V_{CC}=V1, IDQ1=80mA, PW=PW1, DF=DF1, T_F=25±5°C, P_{IN}=4W, F=F1, F2, F3.
100%	Power Gain	G_P	13.98	--	dB	V_{CC}=V1, IDQ1=80mA, PW=PW1, DF=DF1, T_F=25±5°C, P_{IN}=4W, F=F1, F2, F3.
100%	Collector Efficiency ($P_O/I_C/V_{CC}$)	N_C	45	--	%	V_{CC}=V1, IDQ1=80mA, PW=PW1, DF=DF1, T_F=25±5°C, P_{IN}=4W, F=F1, F2, F3.
100%	Pulse Amplitude Droop	D	-0.5	--	dB	V_{CC}=V1, IDQ1=80mA, PW=PW1, DF=DF1, T_F=25±5°C, P_{IN}=4W, F=F1, F2, F3.
100%	Gain Flatness	GF	--	1.5	dB	Calculate from min/max gains at frequencies F1, F2 and F3.
100%	Delta Insertion Phase Variation	d-IP	-20	+20	Deg	V_{CC}=V1, IDQ1=80mA, PW=PW1, DF=DF1, T_F=25±5°C, P_{IN}=4W, F=F1, F2, F3.
100%	Stability into 2:1 VSWR	VSWR-S	--	--	--	V_{CC}=V1, IDQ1=80mA, PW=PW1, DF=DF1, T_F=25±5°C, P_{IN}=4W, F=F1, F2, F3. Rotate 2:1 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 –50 dBc.

Note	V1 = 36V; IDQ1=80mA, PW1 = 300µs; DF1 = 10%; F1 = 4.40 GHz, F2 = 4.70 GHz, F3 = 5.00 GHz.
Note	T_F = Device flange temperature.
Note	Screen 'BD' = parameter qualified By Design.

www.integratech.com
PHONE: 310-606-0855
FAX: 310-606-0865

INTEGRA TECHNOLOGIES, INC.
321 CORAL CIRCLE
EL SEGUNDO, CA 90245-4620

PALLET DIMENSIONAL OUTLINE DRAWING



www.integratech.com
PHONE: 310-606-0855
FAX: 310-606-0865

INTEGRA TECHNOLOGIES, INC.
321 CORAL CIRCLE
EL SEGUNDO, CA 90245-4620

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

www.integratech.com
PHONE: 310-606-0855
FAX: 310-606-0865

INTEGRA TECHNOLOGIES, INC.
321 CORAL CIRCLE
EL SEGUNDO, CA 90245-4620