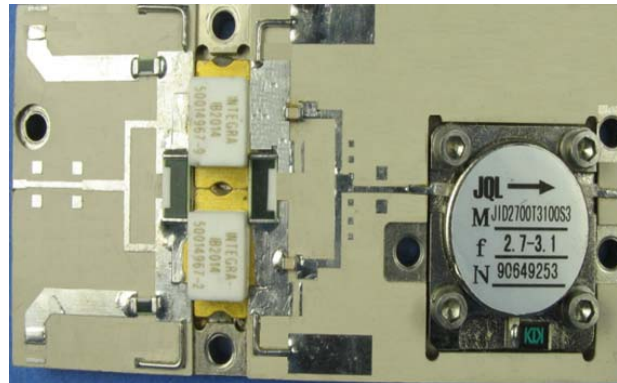


S-Band Radar Pallet

Part number IBP2731M190A is a 50 Ω matched high power pulsed radar pallet amplifier for S-Band radar systems operating over the instantaneous bandwidth of 2.7-3.1 GHz. The pallet amplifier supplies a minimum of 200 watts of peak pulse power under the conditions of 200μs pulse width and 10% duty cycle and incorporates RF Isolator on the output. All devices are 100% screened for large signal RF parameters.



Silicon Bipolar

- Ultra-high f_T

Class C Operation

- High Efficiency

Common Base Configuration

- Single Power Supply

Gold Metal

- Maximum Reliability

Emitter Ballasting

- Optimum Thermal Distribution

Impedance Matched to 50Ω

- Ease of Use

Output Protection

- High Power Isolator

Pallet Carrier

- Ni Plated Copper Carrier
- High Er PCB

TYPICAL DATA

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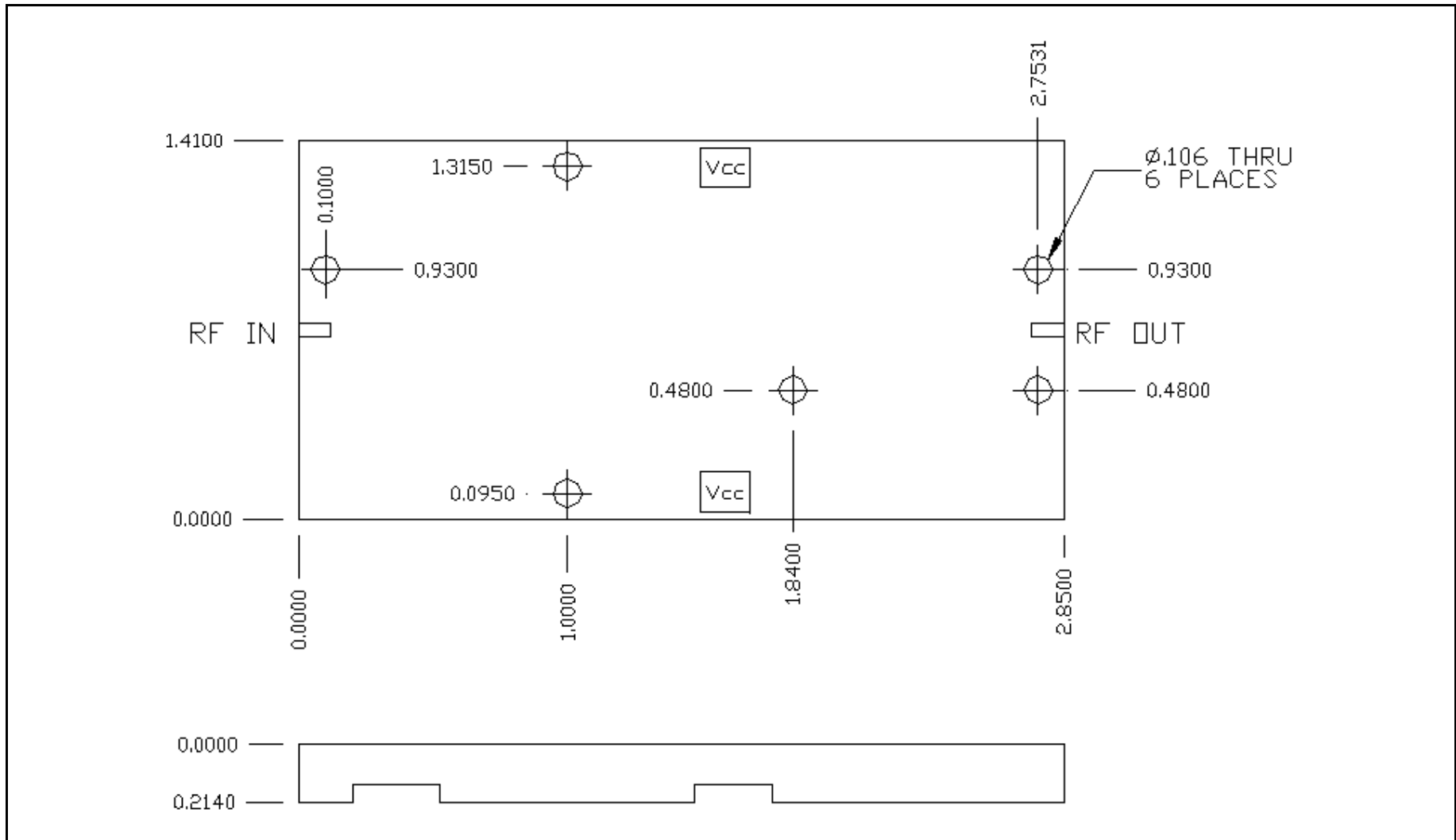
Device	Freq (GHz)	V _{CC} (V)	P _{OUT} (W)	IRL (dB)	P _{IN} (W)	G _P (dB)	I _C (A)	n _C (%)	Droop (dB)
50015694-2	2.70	36	200	13.00	29.9	8.25	13.30	41.78	0.00
	2.80	36	200	15.00	26.5	8.77	13.54	41.02	0.00
	2.90	36	200	15.00	25.7	8.92	13.93	39.95	0.00
	3.00	36	200	15.00	26.8	8.72	14.29	38.82	0.00
	3.10	36	200	12.00	28.0	8.54	13.24	42.04	-0.03

Pulse Format = 200us, 10%

RF ELECTRICAL CHARACTERISTICS

Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
100%	Input Return Loss	IRL	10	--	dB	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F1, F2, F3, F4, F5
100%	Input Power	P_{IN}	--	33.57	W	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F1, F2, F3, F4, F5
100%	Power Gain	G_P	7.75	9.0	dB	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F1, F2, F3, F4, F5. NOTE 5
100%	Collector Efficiency ($P_O/I_C/V_{CC}$)	N_C	34	--	%	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F1, F2, F3, F4, F5. NOTE 5
100%	Pulse Amplitude Droop	D	--	0.8	dB	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F1, F2, F3, F4, F5
100%	Gain Flatness	GF	--	1.3	dB	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F1, F2, F3, F4, F5
100%	Delta Insertion Phase Variation	d-IP	-15	+15	deg	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F5. With respect to an established Phase Reference. <u>Mark in 5 Degree Increments with dash numbers 1 through 8.</u>
100%	Stability at 1dB Input Power Overdrive	OD-S	--	--	--	$V_{CC}=36V$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F1, F2, F3, F4, F5 No oscillatory or pulse break-up characteristics allowed on detected output pulse.
BD	Thermal Resistance	RTH(JC)	--	0.43	C/W	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$,
BD	Pulse Rise	RT	50	200	ns	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F5, Measure between 10% and 90% detected power points.
BD	Pulse Rise and Fall Time	FT	50	200	ns	$V_{CC}=36V$, $P_{OUT}=200W$, Pulse = Note 2, $T_F=25\pm5^\circ C$, F=F5, Measure between 10% and 90% detected power points.
Note 1	F1 = 2.70GHz, F2 = 2.80GHz, F3 = 2.90GHz, F4 = 3.00GHz, F5 = 3.10 GHz.					
Note 2	Pulse format = 200 μ s, 10%					
Note 3	T_F = Pallet base plate temperature.					
Note 4	Screen 'BD' = parameter qualified By Design.					
Note 5	Gain/Power calculations include Output Isolator Losses.					

PALLET DIMENSIONAL OUTLINE DRAWING



DEFINITIONS

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 and operation of the device at these or at any other conditions above those given in the characteristics sections of the specification are not implied. Exposure to maximum values for extended periods of time may affect device reliability.	

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