

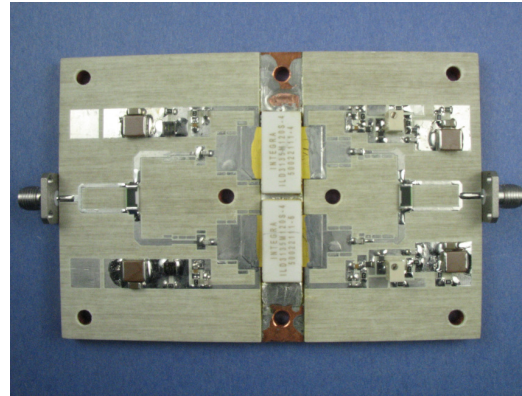
Part Number: ILP3135M240



TECHNOLOGIES, INC.

S-Band Radar Pallet

Part number ILP3135M240 is a 50 Ω matched high power pulsed radar pallet amplifier for S-Band radar systems operating over the instantaneous bandwidth of 3.10-3.50GHz. The pallet amplifier supplies a minimum of 240 watts of peak pulse power under the conditions of 300us pulse width and 10% duty cycle. All units are 100% screened for large signal RF parameters.



Silicon LDMOS

- Ultra-high f_T

Class AB Operation

- Total Bias Current < 300mA

Single Bias Voltage

- Operates with single 32V supply voltage. Gate Bias provided via voltage regulator.

Common Source Configuration

Gold Metal

- Maximum Reliability

Impedance Matched to 50 Ω

- Ease of Use

Pallet Carrier

- Nickel Plated Aluminum Carrier

Maintained

- 100% RF Screening
- No External Tuning Allowed

TYPICAL DATA

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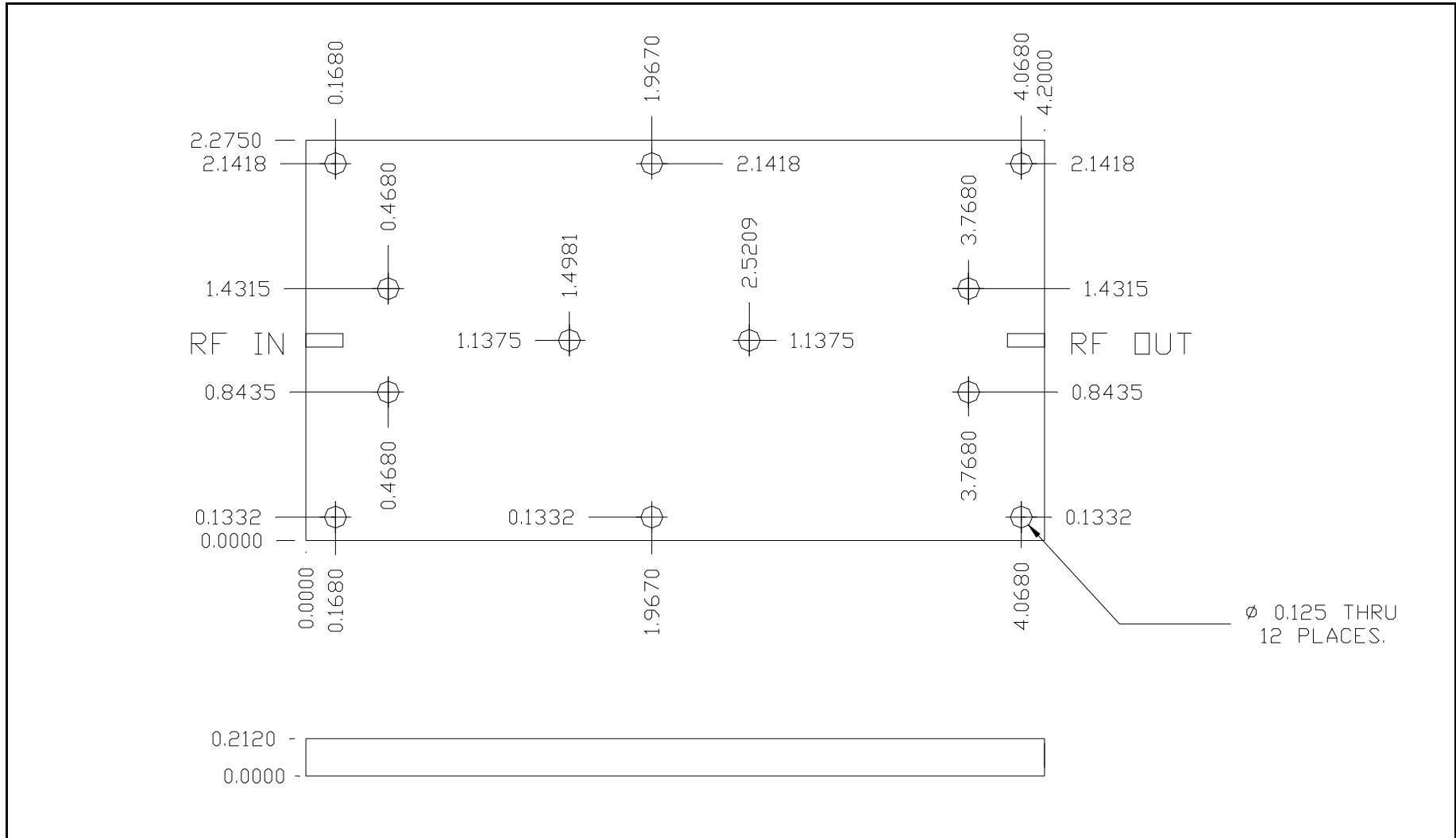
Freq (GHz)	V _{dd} (V)	P _{in} (W)	IRL (dB)	P _{out} Peak (W)	Gp (dB)	I _D (A)	N _c (%)	Droop (dB)	OPF (dB)
3.10	32.0	30.00	-11	279	9.7	23.67	37	-0.320	
3.30	32.0	30.00	-19	316	10.2	25.39	39	-0.370	0.5
3.50	32.0	30.00	-21	284	9.8	22.98	39	-0.300	

Pulse format = 300 μ s, 10%

RF ELECTRICAL CHARACTERISTICS

Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
100%	Input Return Loss	IRL	10	--	dB	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Output Power	P_{OUT}	240	--	W	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Power Gain	G_P	9	--	dB	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Peak Current	I_D	--	30	A	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Efficiency	η_c	35	--	%	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Delta Insertion Phase	DIP	-30	+30	DEG	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Pulse Amplitude Droop	Droop	--	-0.6	dB	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Output Power Flatness	OPF	--	1.5	dB	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Stability into VSWR	VSWR-S	3:1	--	--	$V_{DD}=32V$, $P_{IN}=30W$, I_{DQ} =Note 2, Pulse = Note 3, $T_F=25\pm 5^\circ C$, F=F1, F2, F3. No oscillatory or pulse break-up characteristics allowed on detected output pulse.
Note 1	F1 = 3.10GHz, F2 = 3.30GHz, F3 = 3.50GHz					
Note 2	$I_{DQ}=60mA$					
Note 3	Pulse format = 300us, 10%					
Note 4	T_F = Device flange temperature.					
Note 5	Screen 'BD' = parameter qualified By Design.					

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 is not implied. Exposure to maximum values for extended periods of time may affect device reliability.	

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