

L-Band Radar Pallet

Part number IBPM1030S1K is a 50 Ω matched 3-stage high power pulsed pallet amplifier for L-Band systems operating at 1030 MHz. The pallet amplifier supplies a minimum of 1000 watts of peak pulse power under the conditions of 10μs pulse width and 1% duty cycle. All units 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

Pallet Carrier

- Aluminum Carrier

Maintained

- 100% Device RF Screening
- No External Tuning Allowed

PRELIMINARY DATA

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Device	Freq (MHz)	V _{CC} (V)	P _{IN} (W)	IRL (dB)	P _{OUT} (W)	G _P (dB)	I _C (A)
D4739-1	1030	50	0.135	11.0	1000	38.69	48.3

Pulse Format = 10us, 1%

MAXIMUM RATINGS

Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
BD	Bias Voltage, Collector	--	--	--	--	--
BD	Storage Temperature Range	T _{STG}	-40	+150	°C	--
BD	Operating Temperature Range	T _J	-40	+110	°C	--
Note	Screen 'BD' = parameter qualified By Design.					

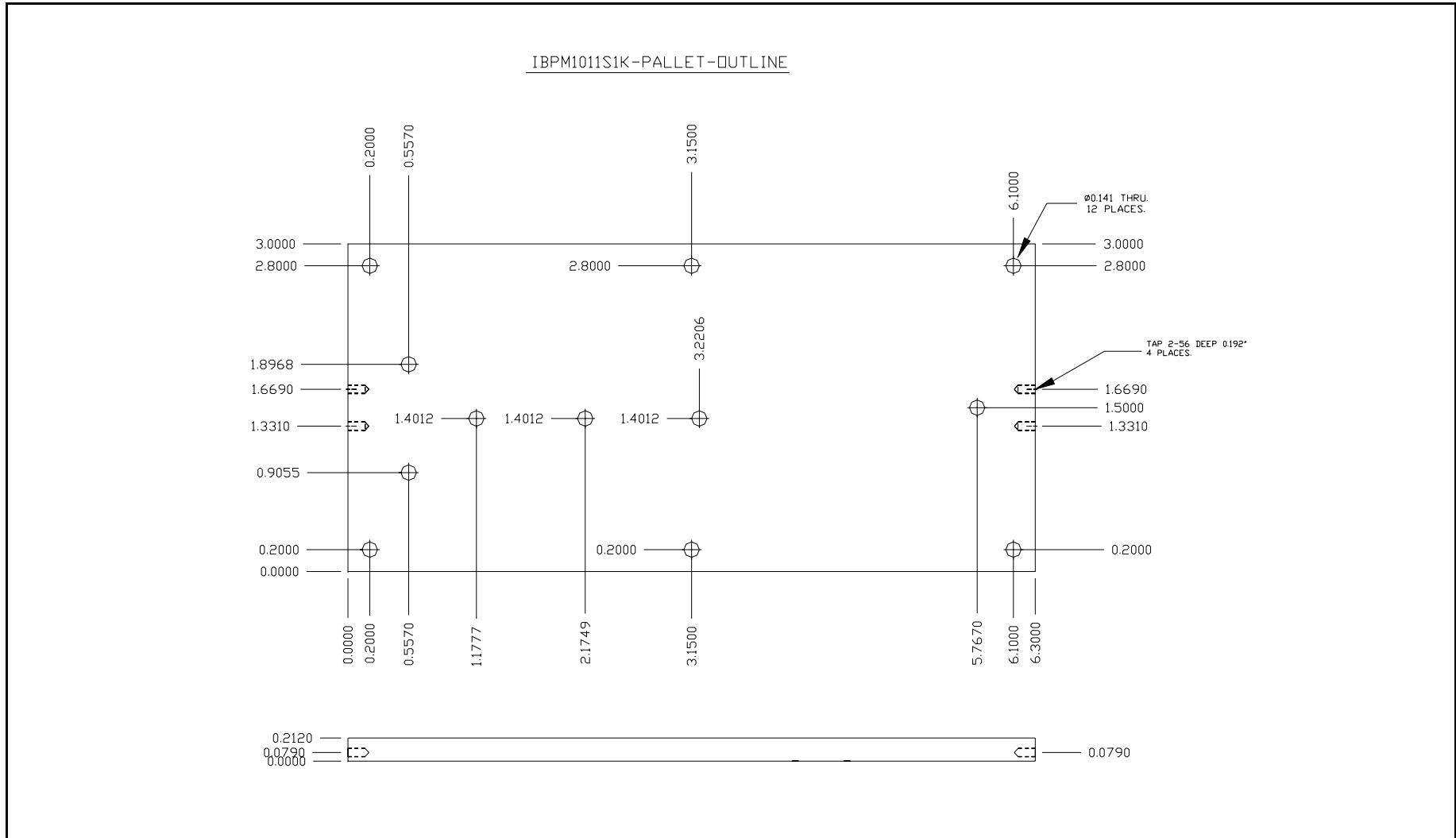
THERMAL CHARACTERISTICS

Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
BD	Thermal Resistance	--	--	--	--	--
Note	Screen 'BD' = parameter qualified By Design.					

RF ELECTRICAL CHARACTERISTICS

Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
100%	Input Return Loss	IRL	-10	--	dB	$V_{CC}=50V$, $P_{IN}=200mW$, Pulse = Note 2, $T_F=25\pm5^\circ C$, $F=F1$.
100%	Output Power	P_{OUT}	1000	--	W	$V_{CC}=50V$, $P_{IN}=200mW$, Pulse = Note 2, $T_F=25\pm5^\circ C$, $F=F1$.
100%	Power Gain	G_P	37.0	--	dB	$V_{CC}=50V$, $P_{IN}=200mW$, Pulse = Note 2, $T_F=25\pm5^\circ C$, $F=F1$.
100%	Peak Current	I_{PK}	--	52	A	$V_{CC}=50V$, $P_{IN}=200mW$, Pulse = Note 2, $T_F=25\pm5^\circ C$, $F=F1$.
100%	Pulse Amplitude Droop	D	--	-0.6	dB	$V_{CC}=50V$, $P_{IN}=200mW$, Pulse = Note 2, $T_F=25\pm5^\circ C$, $F=F1$.
100%	Stability	VSWR-S	1.5:1	--	--	$V_{CC}=50V$, $P_{IN}=200mW$, Pulse = Note 2, $T_F=25\pm5^\circ C$, $F=F1$. No oscillatory or pulse break-up characteristics allowed on detected output pulse.
100%	Load Mismatch Tolerance - Ruggedness	LMT	2:1	--	--	$V_{CC}=50V$, $P_{IN}=200mW$, Pulse = Note 2, $T_F=25\pm5^\circ C$, $F=F1$. Rotate 2:1 output VSWR through 360° phase. Survival.
Note 1	F1 = 1030 MHz,					
Note 2	Pulse format = 10 μ s, 1%					
Note 3	T_F = Device flange temperature.					
Note 4	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.	

WARNING

Product and environmental safety - toxic materials
This product contains beryllium oxide. The product is entirely safe provided that the BeO base is not damaged. All persons who handle, use or dispose of this product should be aware of its nature and of the necessary safety precautions. After use, dispose of as chemical or special waste according to the regulations applying at the location of the user. It must never be thrown out with general or domestic waste.

DISCLAIMER

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