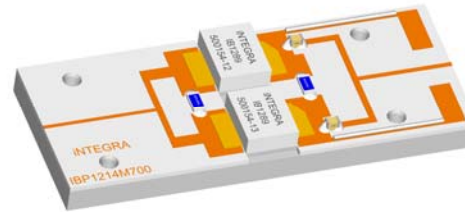


L-Band Radar Pallet

Part number IBP1214M700 is a 50 Ω matched high power pulsed radar pallet amplifier for L-Band radar systems operating over the instantaneous bandwidth of 1210-1400 MHz. The pallet amplifier supplies a minimum of 700 watts of peak pulse power under the conditions of 150μs pulse width and 10% 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

- Nickel Plated Copper Carrier

Maintained

- 100% Device RF Screening
- No External Tuning Allowed

TYPICAL DATA

TYPICAL DATA

TYPICAL DATA

TYPICAL DATA

Device	Freq (MHz)	V _{CC} (V)	P _{IN} (W)	IRL (dB)	P _{OUT} (W)	G _P (dB)	I _C (A)	η _C (%)	Droop (dB)
D4615-1	1210	42	100.0	17.0	792.2	8.99	38.50	48.99	-0.05
	1300	42	100.0	11.2	780.7	8.93	37.50	49.57	-0.05
	1400	42	100.0	16.4	723.3	8.59	34.70	49.63	-0.13

Pulse Format = 150us, 10%

MAXIMUM RATINGS

Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
BD	Collector-Emitter Voltage	V_{CES}	--	85	V	--
BD	Emitter-Base Voltage	V_{EBO}	--	3	V	--
BD	Storage Temperature Range	T_{STG}	-40	+150	°C	--
BD	Operating Junction Temperature Range	T_J	-40	+200	°C	--
Note	Screen 'BD' = parameter qualified By Design.					

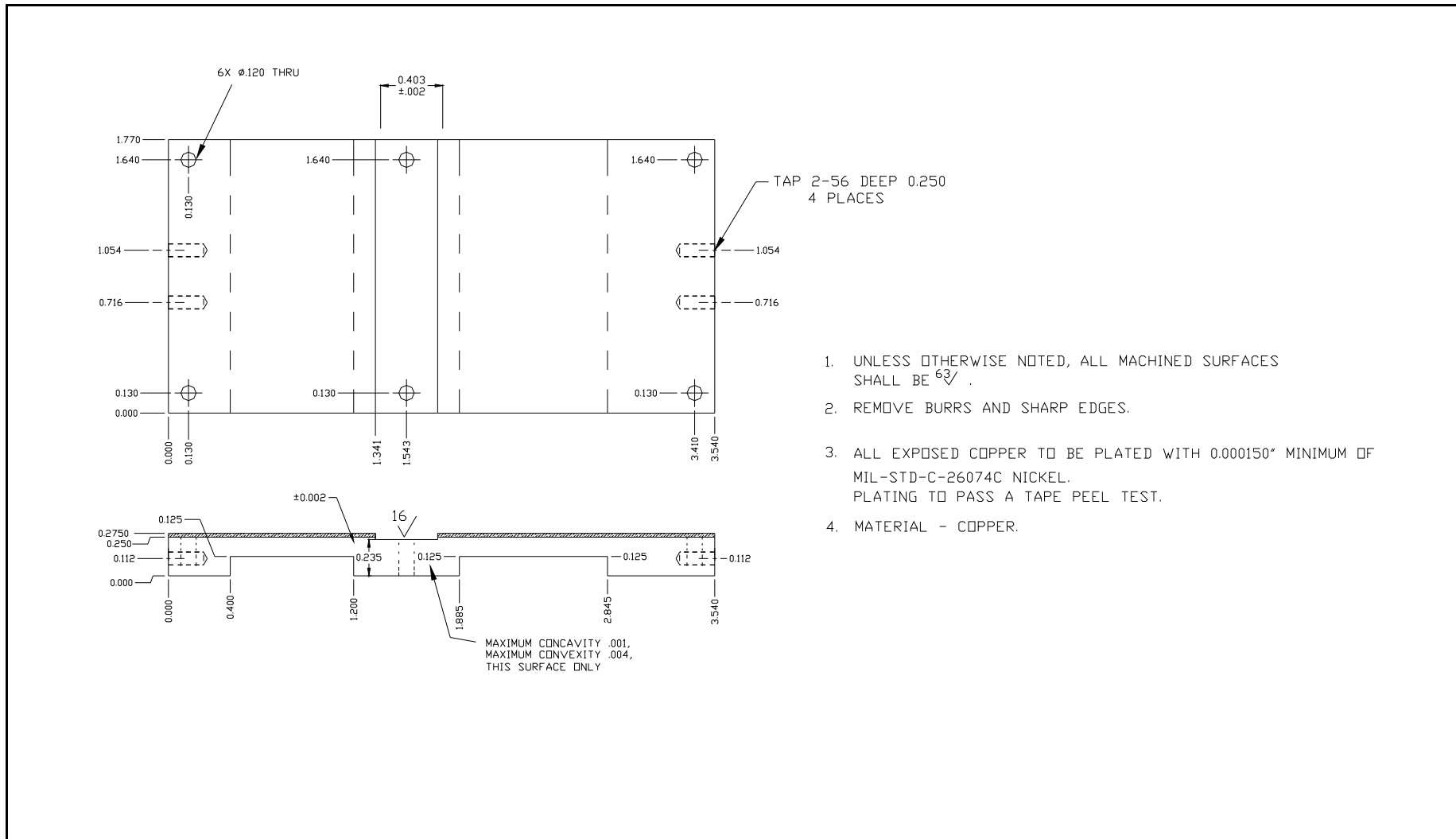
THERMAL CHARACTERISTICS

Screen	Parameter	Symbol	Min	Max	Units	Test Conditions
BD	Thermal Resistance	$R_{TH(JC)}$	--	TBD	°C/W	$V_{CC}=42V$, Pulse format=150 μ s, 10%, $T_F=25\pm 5^\circ C$.
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	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Output Power	P_{OUT}	700	--	W	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Power Gain	G_P	8.45	--	dB	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Collector Efficiency ($P_{OUT}/I_C/V_{CC}$)	N_C	42	--	%	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Pulse Amplitude Droop	D	--	1	dB	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Gain Flatness	GF	--	1.5	dB	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
BD	Delta Insertion Phase Variation	ΔIP	-20	+20	deg	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3.
100%	Stability	VSWR-S	1.5:1	--	--	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3. No oscillatory or pulse break-up characteristics allowed on detected output pulse.
100%	Load Mismatch Tolerance - Ruggedness	LMT	2:1	--	--	$V_{CC}=42V$, $P_{IN}=100W$, Pulse = Note 2, $T_F=25\pm 5^\circ C$, F=F1, F2, F3. Rotate 2:1 output VSWR through 360° phase. Survival.
Note 1	F1 = 1.21 GHz, F2 = 1.3 GHz, F3 = 1.4 GHz					
Note 2	Pulse format = 150 μ s, 10%					
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

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.
--