

RADAR PULSED POWER PALLET

190 Watts, 2.9 – 3.3 GHz

200 μ s Pulse, 10% Duty

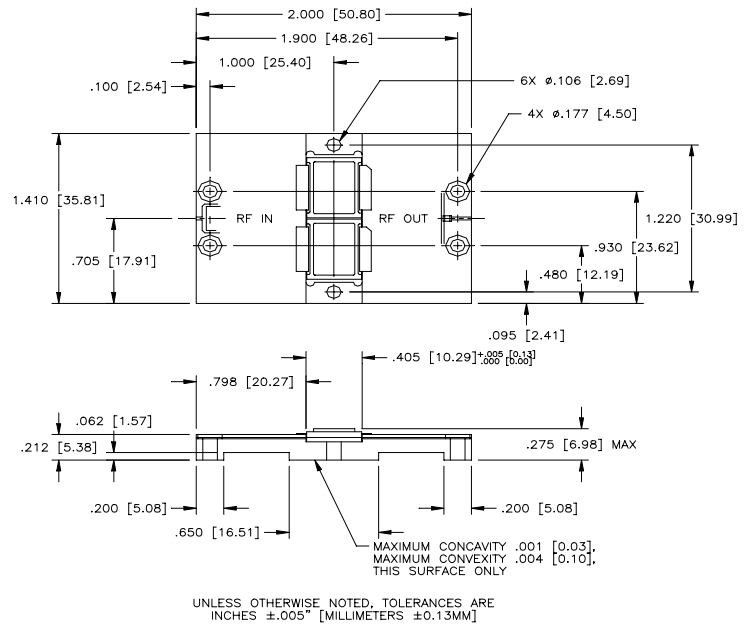
FEATURES

- Input and output matched to 50 Ω
- RC bias circuit included
- Dual NPN silicon class C power transistors on in BeO hermetic packages
- Soft substrate $\epsilon_r = 10.5$
- Nickel plated copper flange

ABSOLUTE MAXIMUM RATINGS AT 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	65	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Junction Temperature	T_j	200	°C
Thermal Resistance	θ_{JC}	TBD	°C/W
Operating Flange Temp.	T_C	-10 to +100	°C
Storage Temp.	T_{STG}	-20 to +125	°C

Preliminary Outline Drawing



ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Test Conditions	Min	Max	Units
Input Power	P_{in}	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	-	37.9	Wpk
Power Gain	G_p	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	7.0	-	dB
Collector Efficiency	η_C	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	35	-	%
Input Return Loss	RL	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	10	-	dB
Pulse Amplitude Droop	Droop	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	-	.7	dB
2 nd Harmonic	2fc	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	TBD	-	dBc
Spurious Level	Spurious	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	-	-50	dBc
Insertion Phase Deviation	$\Delta\phi$	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	-20	+20	Deg.
Tolerance & Stability	VSWR-T	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	-	2:1	VSWR
Stability at Overdrive	OD-STAB	$P_{in} = (P_{in} @ P_{out} = 190Wpk) + 1dB$ [Note 1]	-	-	-
Gain Flatness over Frequency	GF	$V_{cc} = 36V, P_{out} = 190Wpk, F = 2.9, 3.1, 3.3 GHz$	-	1.0	dB

[Note1]: No oscillations and no spurs at 1dB overdrive.