

MAPRST0912-350
AVIONICS PULSED POWER TRANSISTOR
350 Watts, 960 - 1215 MHz, 10µs Pulse Width, 10% Duty Cycle

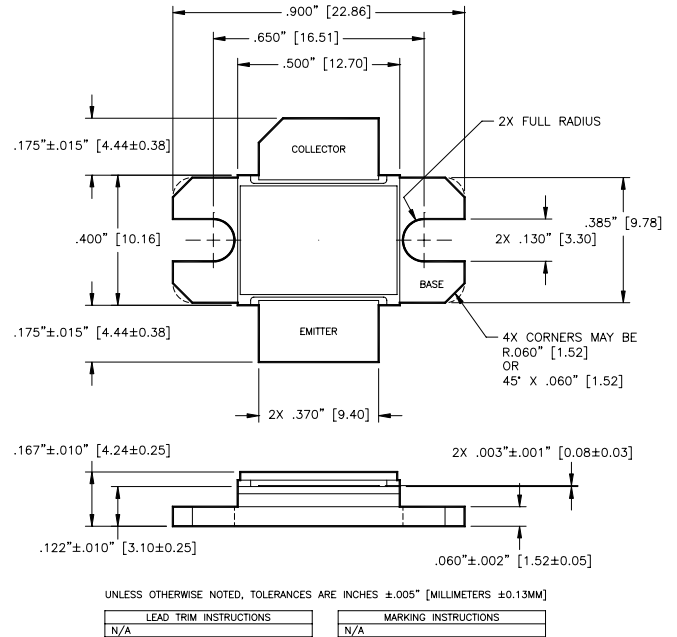
FEATURES

- * NPN Silicon Microwave Power Transistor
- * Common Base Configuration
- * Broadband Class C Operation
- * High Efficiency Interdigitated Geometry
- * Diffused Emitter Ballasting Resistors
- * Gold Metalization System
- * Internal Input and Output Impedance Matching
- * Hermetic Metal/Ceramic Package

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
Collector Current (Peak)	I_C	32.5	A
Total Power Dissipation @ +25°C	P_{TOT}	1340	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C

OUTLINE DRAWING

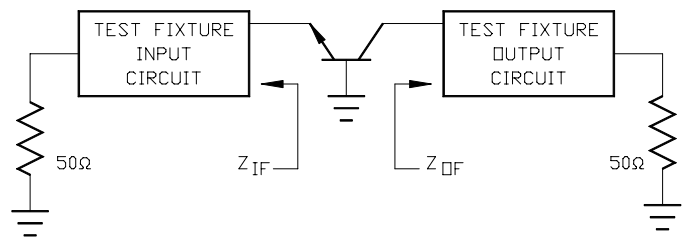


ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	$I_C=50mA$
Collector-Emitter Leakage Current	I_{CES}	-	15	mA	$V_{CE}=50V$
Thermal Resistance	R_{TH}	-	0.13	°C/W	$V_{CC}=50V, P_{IN}=40W, F=960, 1090, 1215 MHz$
Output Power	P_{OUT}	350	-	W	$V_{CC}=50V, P_{IN}=40W, F=960, 1090, 1215 MHz$
Collector Efficiency	η_C	45	-	%	$V_{CC}=50V, P_{IN}=40W, F=960, 1090, 1215 MHz$
Input Return Loss	RL	9	-	dB	$V_{CC}=50V, P_{IN}=40W, F=960, 1090, 1215 MHz$
Load Mismatch Tolerance	VSWR-T	-	10:1	-	$V_{CC}=50V, P_{IN}=40W, F=960 MHz$
Load Mismatch Stability	VSWR-S	-	1.5:1	-	$V_{CC}=50V, P_{IN}=40W, F=960, 1090, 1215 MHz$ All spurious signals shall be < -60dBc below carrier, except $F = F_o \pm \frac{1}{2} F_o$ shall be < -40dBc

BROADBAND TEST FIXTURE IMPEDANCE

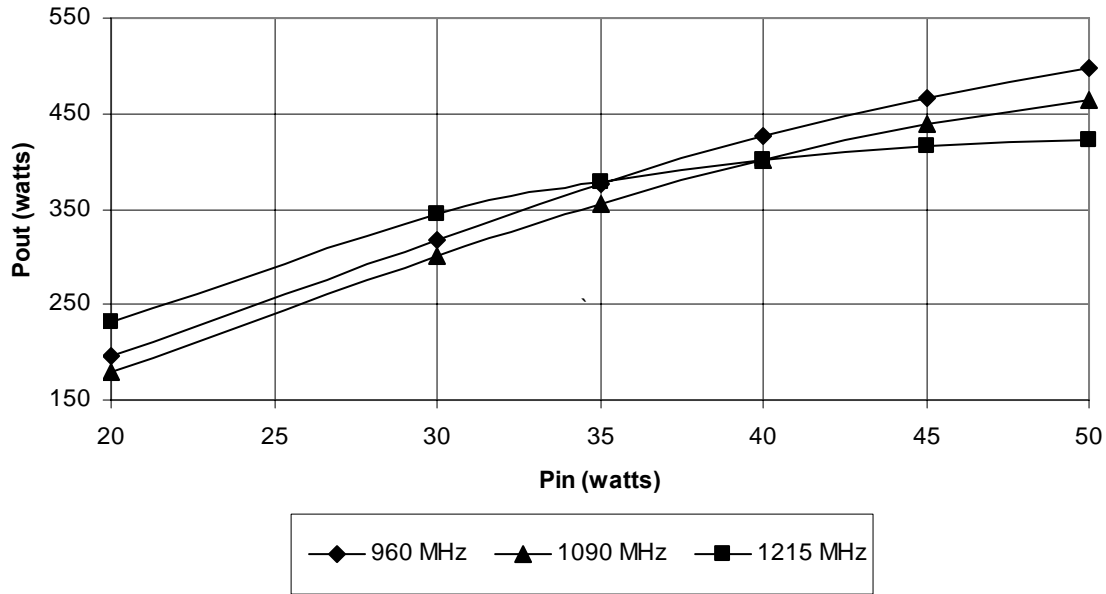
F (MHz)	$Z_{IF} (\Omega)$	$Z_{OF} (\Omega)$
960	1.8 - j1.7	1.7 - j1.7
1030	1.7 - j1.4	1.8 - j1.2
1090	1.6 - j1.2	1.9 - j0.8
1150	1.4 - j1.0	1.9 - j0.6
1215	1.2 - j0.8	2.0 - j0.2



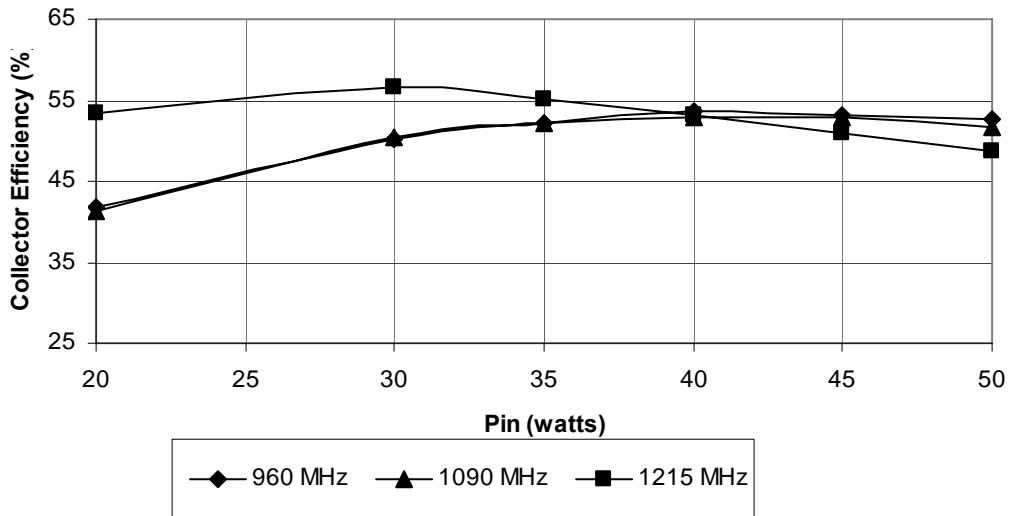
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TYPICAL RF PERFORMANCE - OUTPUT POWER VS. INPUT POWER



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