ADVANCED POWER TECHNOLOGY RF®

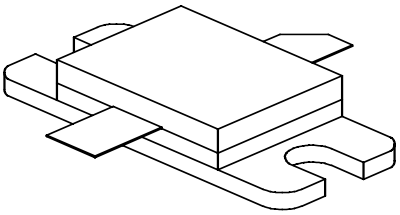
0910 – 150M

150 Watts - 48 Volts, 150µs, 5%
Radar 890 - 1000 MHz

GENERAL DESCRIPTION

The 0910-150M is an internally matched, COMMON BASE transistor capable of providing 150 Watts of pulsed RF output power at 150 µs pulse width, 5% duty factor across the band 890 to 1000 MHz. This hermetically solder-sealed transistor is specifically designed for P-Band radar applications. It utilizes gold metallization to provide high reliability.

CASE OUTLINE
55KT, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C		400 Watts
Maximum Voltage and Current		
BVces	Collector to Emitter Voltage	65 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	12 Amps
Maximum Temperatures		
Storage Temperature		- 65 to + 200°C
Operating Junction Temperature		+ 200°C

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	Freq = 890 – 1000 MHz	150		210	Watts
Pg	Power Gain	Vcc = 48 Volts	8.1	8.5		dB
ηc	Collector Efficiency	Pin = 23 Watts	40	45		%
Pd	Pulse Droop	Pulse Width = 150µs			0.5	dB
Rl	Input Return loss	Duty Factor = 5%	-9			dB
VSWR[1]	Load Mismatch Tolerance				3:1	
VSWRs	Load Mismatch - Stability				2:1	

Note 1: Pulse condition of 150µsec, 5%.

Bvces	Collector to Emitter Breakdown	Ic = 10 mA	65			Volts
Ices	Collector to Emitter Leakage	Vce = 50 Volts			10	mA
Iebo	Emitter to Base Leakage	Vebo = 2.5 Volts			5.0	mA
θjc[1]	Thermal Resistance	Rated Pulse Condition			0.48	°C/W

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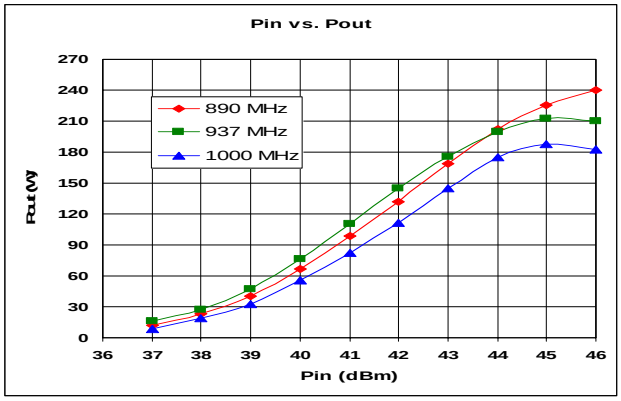
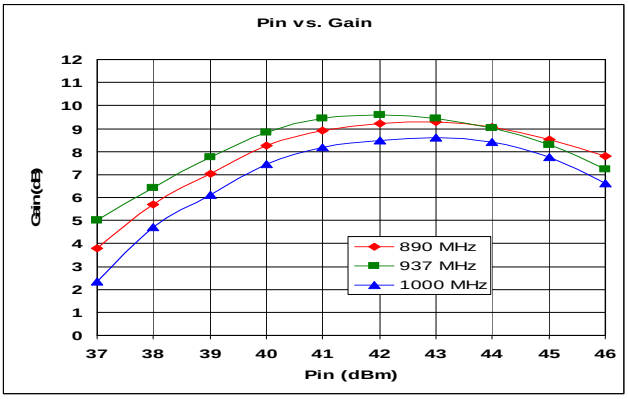
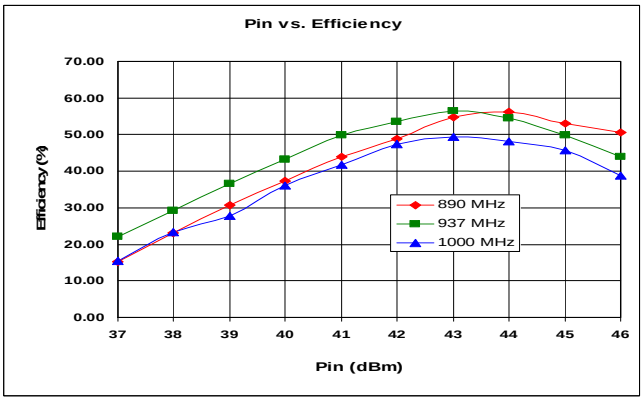
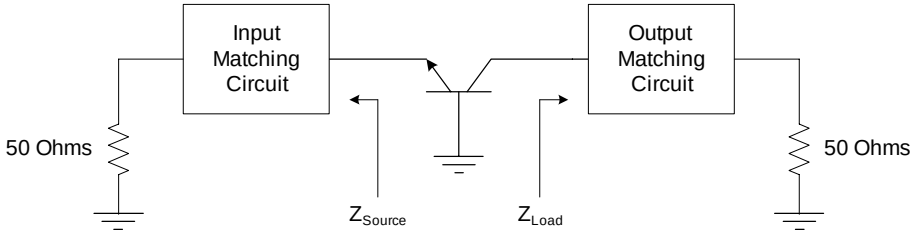
Performance Curves –







Impedance Information



Frequencies (MHz)	$Z_{Source}(\Omega)$	$Z_{Load}(\Omega)$ [2]
890	4.0 - j4.2	1.85 – j3.2
937	4.0 - j3.5	1.97 – j3.0
1000	4.1 - j2.5	2.1 – j3.0

Note 2: Z_{Load} exclusive of C1 and C4 on the test circuit

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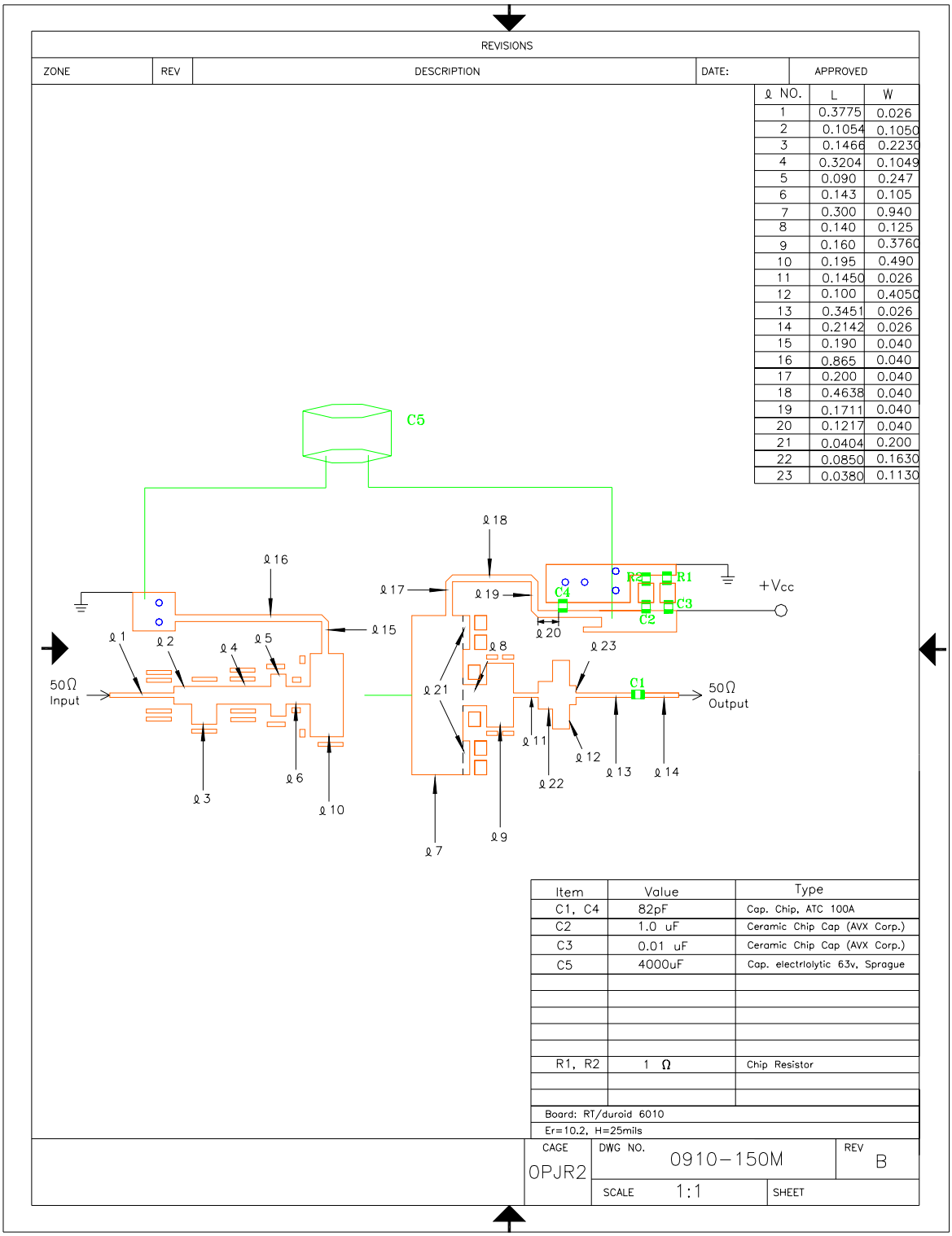
Test Circuit



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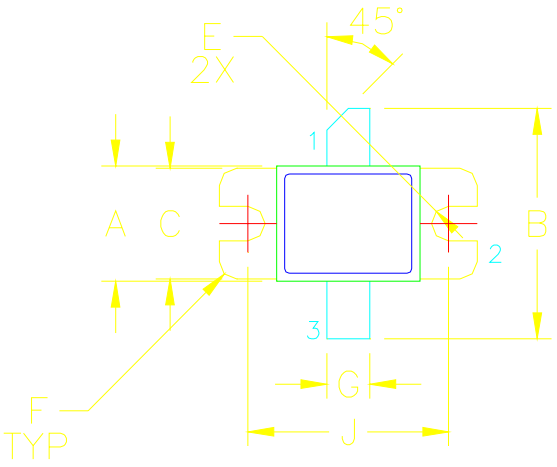
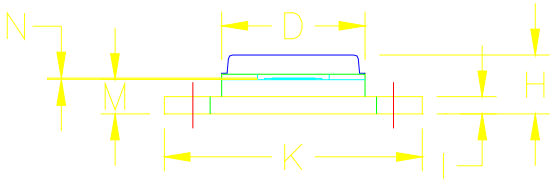
Case Outline

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

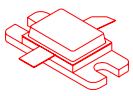




DIM	MILLIMETER	± TOL	INCHES	±TOL
A	10.16	.13	.400	.005
B	20.32	.76	.800	.030
C	9.78	.13	.385	.005
D	12.70	.13	.500	.005
E	1.52R	.13	.060R	.005
F	1.52R	.13	.060R	.005
G	3.81	.13	.150	.005
H	5.84	MAX	.230	MAX
I	1.52	.13	.060	.005
J	17.78	.13	.700	.005
K	22.86	.13	.900	.005
M	3.05	.13	.120	.010
N	0.08	+ .05 − .03	.003	+ .002 − .001

STYLE 1:
PIN1 = COLLECTOR
2 = BASE
3 = EMITTER

STYLE 2:
PIN1 = COLLECTOR
2 = EMITTER
3 = BASE



CAGE	DWG NO.	REV
0PJR2	55KT	E
	SCALE 2/1	SHEET

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