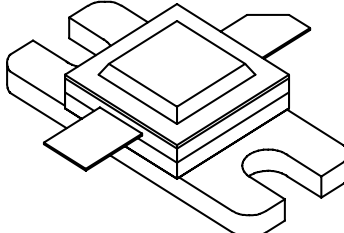




0910 - 60M

60 Watts - 40 Volts, 150 μ s, 5%
Radar 890 - 1000 MHz

<p>GENERAL DESCRIPTION</p> <p>The 0910-60M is an internally matched, COMMON BASE transistor capable of providing 60 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.</p>	<p>CASE OUTLINE 55AW-1</p> 													
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C 180 Watts</p> <p>Maximum Voltage and Current</p> <table border="0"> <tr> <td>BVces</td> <td>Collector to Emitter Voltage</td> <td>65 Volts</td> </tr> <tr> <td>BVebo</td> <td>Emitter to Base Voltage</td> <td>3.5 Volts</td> </tr> <tr> <td>Ic</td> <td>Collector Current</td> <td>8 Amps</td> </tr> </table> <p>Maximum Temperatures</p> <table border="0"> <tr> <td>Storage Temperature</td> <td>- 65 to + 200°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td>+ 200°C</td> </tr> </table>	BVces	Collector to Emitter Voltage	65 Volts	BVebo	Emitter to Base Voltage	3.5 Volts	Ic	Collector Current	8 Amps	Storage Temperature	- 65 to + 200°C	Operating Junction Temperature	+ 200°C	
BVces	Collector to Emitter Voltage	65 Volts												
BVebo	Emitter to Base Voltage	3.5 Volts												
Ic	Collector Current	8 Amps												
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	60		84	Watts
Pg	Power Gain	Vcc = 40 Volts	8.0	8.5		dB
η_c	Collector Efficiency	Pin = 9.5 Watts	40	45		%
Pd	Pulse Droop	Pulse Width = 150 μ s			0.5	dB
RI	Input Return loss	Duty Factor = 5%	-9			dB
VSWR¹	Load Mismatch Tolerance				3:1	
VSWRs	Load Mismatch - Stability				2:1	

Note 1: Pulse condition of 150 μ sec, 5%.

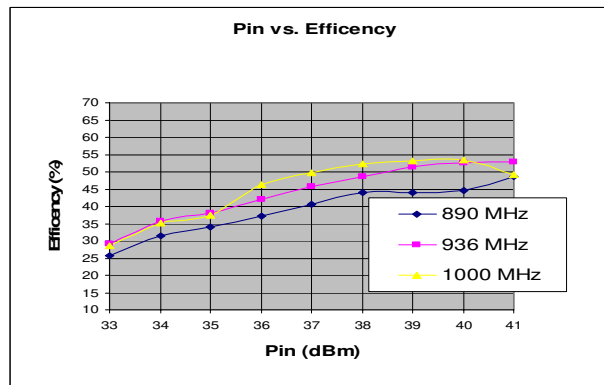
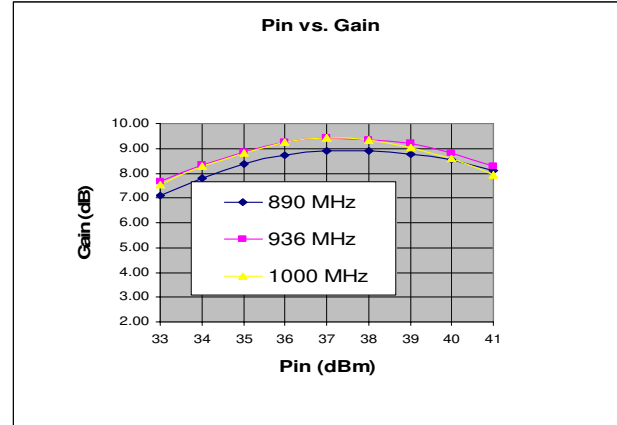
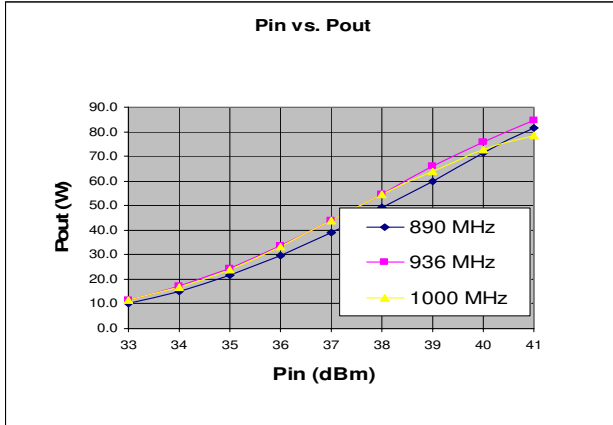
Bvces	Collector to Emitter Breakdown	Ic = 40 mA	65			Volts
Ices	Collector to Emitter Leakage	Vce = 40 Volts			10	mA
Iebo	Emitter to Base Leakage	Vebo = 3.0 Volts			8	mA
θ_{jc}¹	Thermal Resistance	Rated Pulse Condition			1.0	°C/W

Issue December 2005

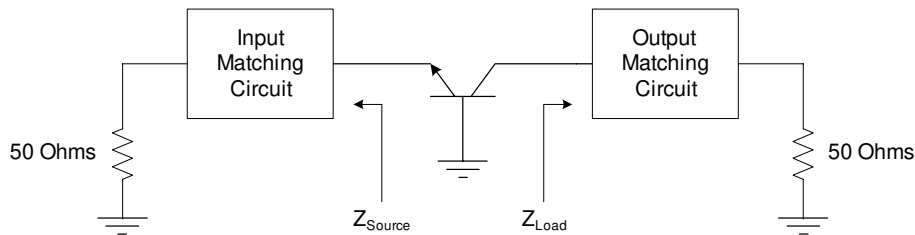


0910-60M

Performance Curves –



Impedance Information



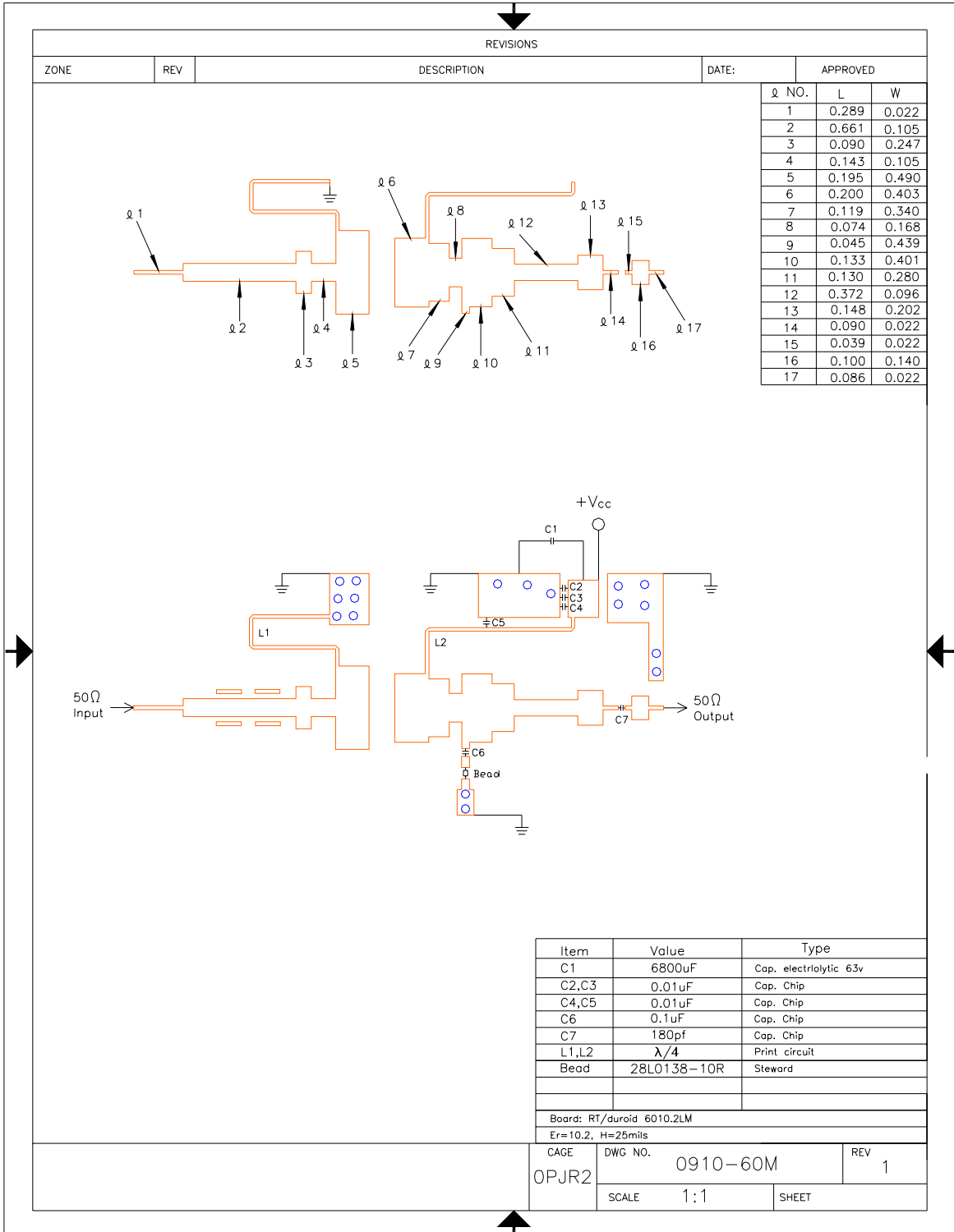
Frequencies (MHz)	$Z_{Source} (\Omega)$	$Z_{Load} (\Omega)^2$
890	4.4-j4.0	2.8-j0.7
937	4.5-j3.3	2.9-j0.0
1000	4.7-j2.5	3.2+j0.95

Note 2: Z_{Load} exclusive of C5, C6 and bead on the test circuit



0910-60M

Test Circuit





0910-60M

Case Outline

REVISIONS																																																																										
ZONE	REV	DESCRIPTION	DATE	APPROVED																																																																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DIM</th> <th>MILLIMETER</th> <th>±TOL</th> <th>INCHES</th> <th>±TOL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>20.32</td> <td>.76</td> <td>.800</td> <td>.050</td> </tr> <tr> <td>B</td> <td>10.16</td> <td>.13</td> <td>.400</td> <td>.005</td> </tr> <tr> <td>C</td> <td>9.78</td> <td>.13</td> <td>.385</td> <td>.005</td> </tr> <tr> <td>D</td> <td>45°</td> <td>5°</td> <td>45°</td> <td>5°</td> </tr> <tr> <td>E</td> <td>3.81</td> <td>.13</td> <td>.150</td> <td>.005</td> </tr> <tr> <td>F</td> <td>1.52</td> <td>.13</td> <td>.060</td> <td>.005</td> </tr> <tr> <td>G</td> <td>1.52R</td> <td>.13</td> <td>.060R</td> <td>.005</td> </tr> <tr> <td>H</td> <td>3.05</td> <td>.13</td> <td>.120</td> <td>.005</td> </tr> <tr> <td>I</td> <td>3.30 DIA</td> <td>.13</td> <td>.130 DIA</td> <td>.005</td> </tr> <tr> <td>J</td> <td>22.86</td> <td>.13</td> <td>.900</td> <td>.005</td> </tr> <tr> <td>K</td> <td>16.51</td> <td>.13</td> <td>.650</td> <td>.005</td> </tr> <tr> <td>M</td> <td>4.70</td> <td>REF</td> <td>.185</td> <td>REF</td> </tr> <tr> <td>N</td> <td>0.13</td> <td>.02</td> <td>.005</td> <td>.001</td> </tr> </tbody> </table>					DIM	MILLIMETER	±TOL	INCHES	±TOL	A	20.32	.76	.800	.050	B	10.16	.13	.400	.005	C	9.78	.13	.385	.005	D	45°	5°	45°	5°	E	3.81	.13	.150	.005	F	1.52	.13	.060	.005	G	1.52R	.13	.060R	.005	H	3.05	.13	.120	.005	I	3.30 DIA	.13	.130 DIA	.005	J	22.86	.13	.900	.005	K	16.51	.13	.650	.005	M	4.70	REF	.185	REF	N	0.13	.02	.005	.001
DIM	MILLIMETER	±TOL	INCHES	±TOL																																																																						
A	20.32	.76	.800	.050																																																																						
B	10.16	.13	.400	.005																																																																						
C	9.78	.13	.385	.005																																																																						
D	45°	5°	45°	5°																																																																						
E	3.81	.13	.150	.005																																																																						
F	1.52	.13	.060	.005																																																																						
G	1.52R	.13	.060R	.005																																																																						
H	3.05	.13	.120	.005																																																																						
I	3.30 DIA	.13	.130 DIA	.005																																																																						
J	22.86	.13	.900	.005																																																																						
K	16.51	.13	.650	.005																																																																						
M	4.70	REF	.185	REF																																																																						
N	0.13	.02	.005	.001																																																																						
<p>STYLE 1: PIN1 = COLLECTOR 2 = BASE 3 = EMITTER</p> <p>STYLE 2: PIN1 = COLLECTOR 2 = EMITTER 3 = BASE</p>																																																																										
CAGE		DWG. NO.		REV																																																																						
OPJR2		55AW		A																																																																						
SCALE			SHEET																																																																							
2/1			SHEET																																																																							