



# 0910 – 60M

60 Watts - 40 Volts, 150 $\mu$ s, 5%  
Radar 890 - 1000 MHz

## GENERAL DESCRIPTION

The 0910-60M is an internally matched, COMMON BASE transistor capable of providing 60 Watts of pulsed RF output power at 150  $\mu$ s 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.

## ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 180 Watts

### Maximum Voltage and Current

BVces Collector to Emitter Voltage 65 Volts

BVebo Emitter to Base Voltage 3.5 Volts

Ic Collector Current 8 Amps

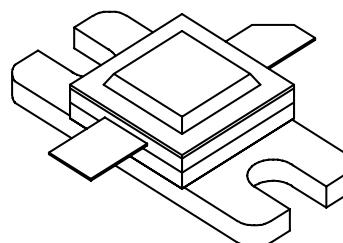
### Maximum Temperatures

Storage Temperature - 65 to + 200°C

Operating Junction Temperature + 200°C

## CASE OUTLINE

55AW-1



## ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>P<sub>out</sub></b>	Power Out	Freq = 890 – 1000 MHz	60		84	Watts
<b>P<sub>g</sub></b>	Power Gain	V <sub>cc</sub> = 40 Volts	8.0	8.5		dB
<b><math>\eta_c</math></b>	Collector Efficiency	Pin = 9.5 Watts	40	45		%
<b>P<sub>d</sub></b>	Pulse Droop	Pulse Width = 150 $\mu$ s			0.5	dB
<b>RI</b>	Input Return loss	Duty Factor = 5%	-9			dB
<b>VSWR<sup>1</sup></b>	Load Mismatch Tolerance				3:1	
<b>VSWR<sub>s</sub></b>	Load Mismatch - Stability				2:1	

Note 1: Pulse condition of 150 $\mu$ sec, 5%.

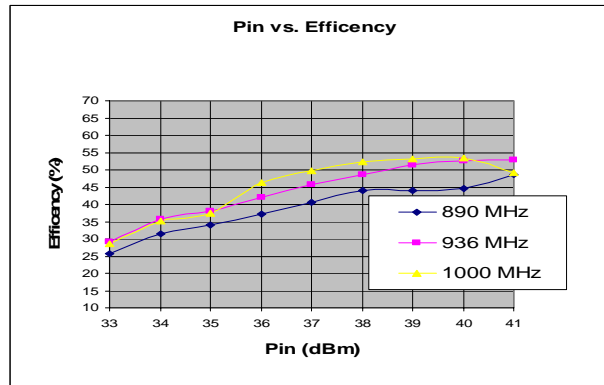
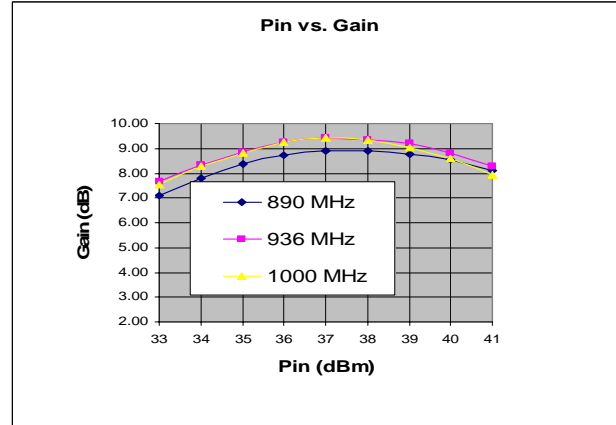
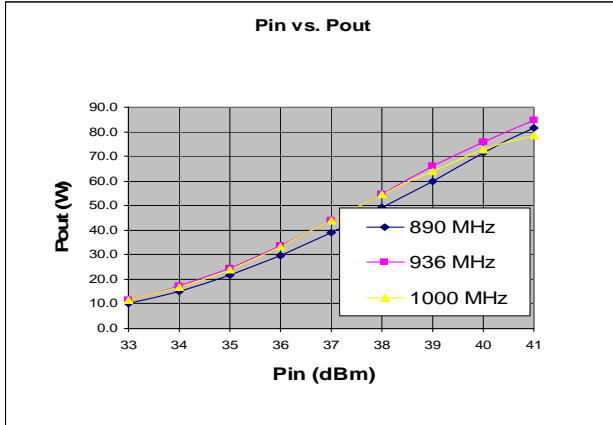
<b>Bvces</b>	Collector to Emitter Breakdown	Ic = 40 mA	65			Volts
<b>Ices</b>	Collector to Emitter Leakage	Vce = 40 Volts			10	mA
<b>Iebo</b>	Emitter to Base Leakage	Vebo = 3.0 Volts			8	mA
<b><math>\theta_{jc}^1</math></b>	Thermal Resistance	Rated Pulse Condition			1.0	°C/W

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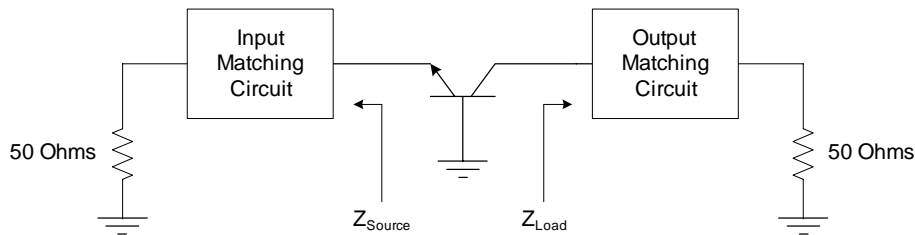


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## Performance Curves –



## Impedance Information



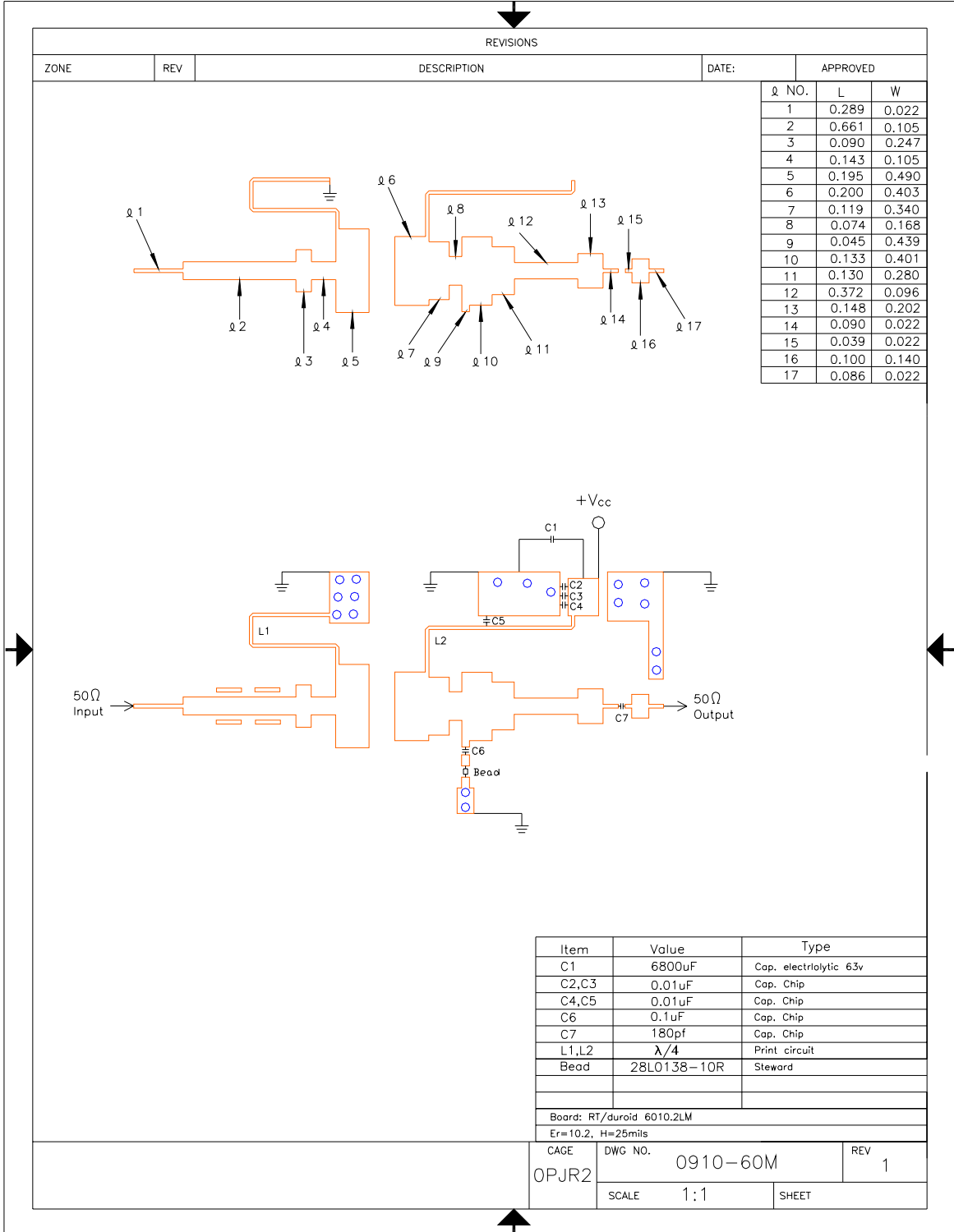
Frequencies (MHz)	$Z_{Source} (\Omega)$	$Z_{Load} (\Omega)^2$
890	4.4-j4.0	2.8-j0.7
937	4.5-j3.3	2.9-j0.0
1000	4.7-j2.5	3.2+j0.95

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



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## Test Circuit





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## 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
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