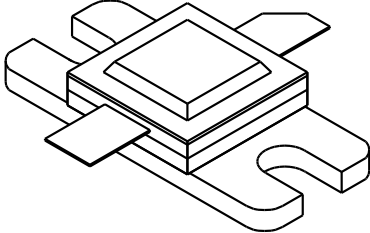


# 1214 - 55

55 Watts - 28 Volts, Pulsed  
Radar 1200 - 1400 MHz

<p><b>GENERAL DESCRIPTION</b></p> <p>The 1214-55 is an internally matched, COMMON BASE transistor capable of providing 55 Watts of pulsed RF output power at two milliseconds pulse width, twenty percent duty factor across the band 1200 to 1400 MHz. This hermetically solder-sealed transistor is specifically designed for L-Band radar applications. It utilizes gold metalization and diffused emitter ballasting to provide high reliability and supreme ruggedness.</p>	<p><b>CASE OUTLINE</b> <b>55AW, STYLE 1</b></p> 
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p>Maximum Power Dissipation @ 25°C <span style="float: right;">175 Watts</span></p> <p><b>Maximum Voltage and Current</b></p> <p>BVces Collector to Emitter Voltage <span style="float: right;">50 Volts</span>          BVebo Emitter to Base Voltage <span style="float: right;">3.5 Volts</span>          Ic Collector Current <span style="float: right;">8 Amps</span></p> <p><b>Maximum Temperatures</b></p> <p>Storage Temperature <span style="float: right;">- 65 to + 200°C</span>          Operating Junction Temperature <span style="float: right;">+ 200°C</span></p>	

## ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1200-1400 MHz	55			Watts
Pin	Power Input	Vcc = 28 Volts			12.3	Watts
Pg	Power Gain	Pulse Width = 2 ms	6.5	7.0		dB
ηc	Collector Efficiency	Duty = 20 %		45		%
VSWR	Load Mismatch Tolerance	F=1300MHz, Po=55W			3:1	

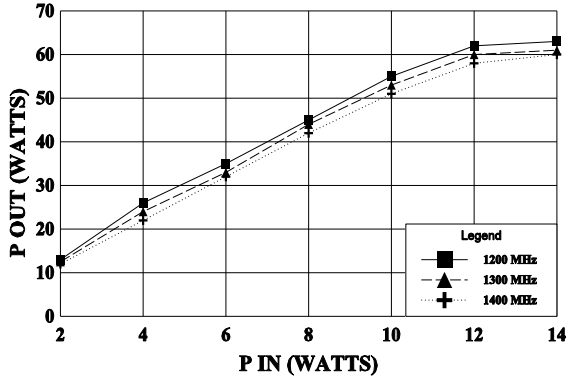
BVces	Collector to Emitter Breakdown	Ic = 100 mA	50			Volts
BVebo	Emitter to Base Breakdown	Ie = 15 mA	3.5			Volts
Hfe	DC Current Gain	Vce = 5 V, Ic = 1000 mA	20	45		
θjc	Thermal Resistance	Rated Pulse Condition			1.0	°C/W

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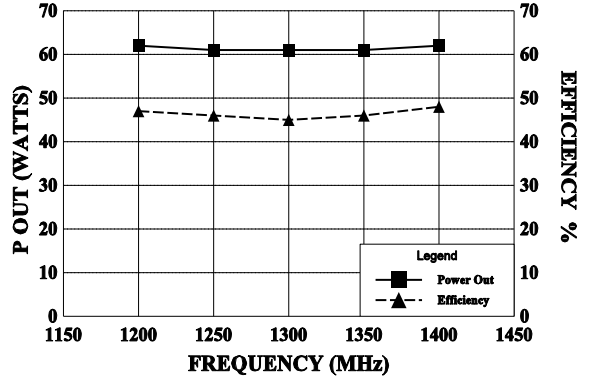
**POWER OUTPUT vs POWER INPUT**

Vcc = 28 V, PW = 2 ms, 20%



**POWER OUPUT AND EFF. vs FREQUENCY**

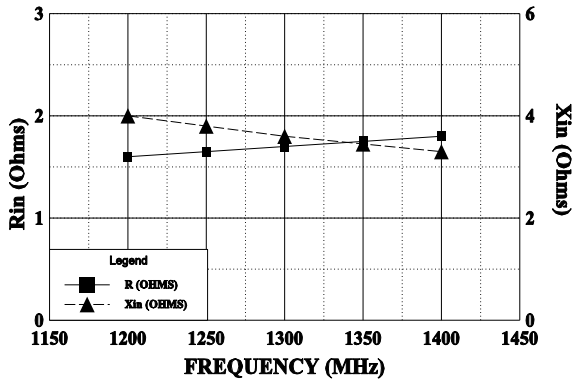
Vcc = 28 V, Pin = 12.3 W, 2 ms, 20%



**Typical Impedances**

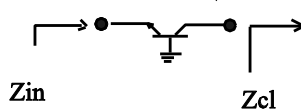
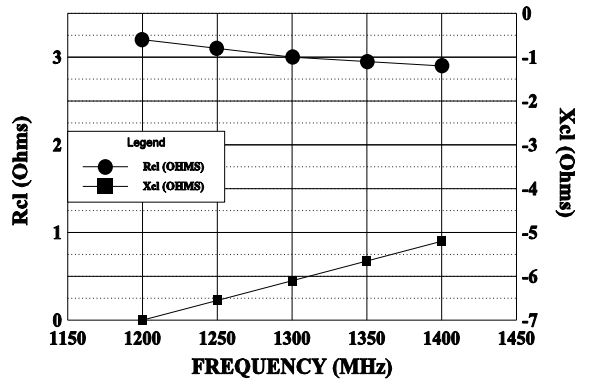
**INPUT IMPEDANCE vs FREQUENCY**

Zin = R + jX (Vcc = 28 V, Pin = 12 W)



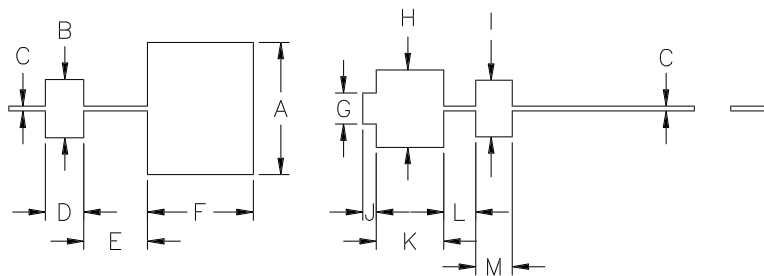
**LOAD IMPEDANCE vs FREQUENCY**

Zcl = Rcl - jXcl (Vcc = 28 V, Pin=12 W)



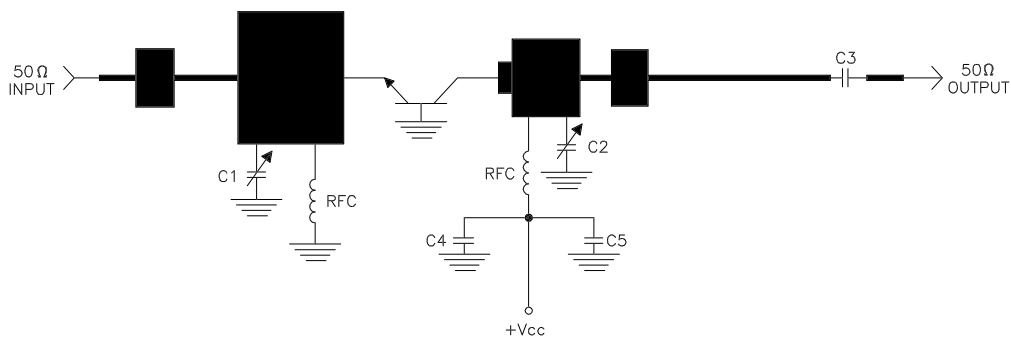
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.725
B	.320
C	.027
D	.170
E	.350
F	.310
G	.170
H	.425
I	.310
J	.075
K	.370
L	.175
M	.200

1214-55 TEST AMPLIFIER  
1200 - 1400 MHz BANDWIDTH



- = Microstrip on 0.010" Duroid, Er=2.3
- C1 = 0.6-6.5pF JOHANSON VARIABLE
- C2 = 0.3-3.5pF JOHANSON VARIABLE
- C3 = 82pF ATC CHIP CAP
- C4 = 82pF ATC CHIP CAP
- C5 = 2000 mFD



CAGE OPJR2	DWG NO. 1214-55	REV A
	SCALE 1/1	SHEET