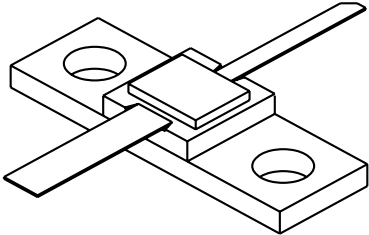


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# 1417-6A

6 Watts, 28 Volts, Class C  
Microwave 1400 - 1700 MHz

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<p><b>GENERAL DESCRIPTION</b></p> <p>The 1417-6A is an internally matched, COMMON BASE transistor capable of providing 6 watts of CW RF Output power across the 1400-1700 MHz band. This transistor is specifically designed for telemetry and telecommunications applications. It utilizes gold metalization and diffused ballasting to provide high reliability and superior ruggedness.</p>	<p><b>CASE OUTLINE</b> <b>55LV, STYLE 1</b></p> 													
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p>Maximum Power Dissipation @ 25°C <span style="float: right;">19 Watts</span></p> <p><b>Maximum Voltage and Current</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">BVces</td> <td style="width: 45%;">Collector to Emitter Voltage</td> <td style="width: 40%; text-align: right;">50 Volts</td> </tr> <tr> <td>BVebo</td> <td>Emitter to Base Voltage</td> <td style="text-align: right;">3.5 Volts</td> </tr> <tr> <td>Ic</td> <td>Collector Current</td> <td style="text-align: right;">1.0 Amps</td> </tr> </table> <p><b>Maximum Temperatures</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 45%;">Storage Temperature</td> <td style="text-align: right;">- 65 to + 200°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td style="text-align: right;">+ 200°C</td> </tr> </table>	BVces	Collector to Emitter Voltage	50 Volts	BVebo	Emitter to Base Voltage	3.5 Volts	Ic	Collector Current	1.0 Amps	Storage Temperature	- 65 to + 200°C	Operating Junction Temperature	+ 200°C	
BVces	Collector to Emitter Voltage	50 Volts												
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## ELECTRICAL CHARACTERISTICS @ 25 °C

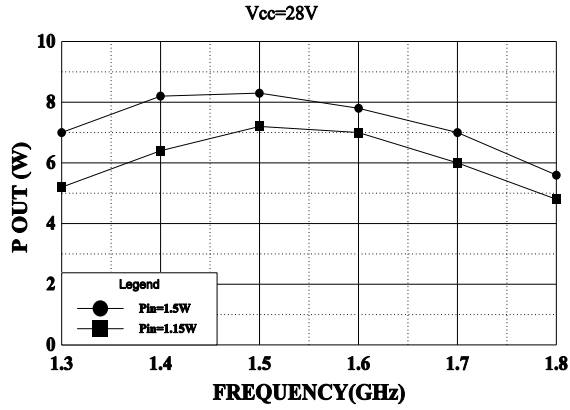
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>Pout</b>	Power Output	F = 1.4 - 1.7 GHz	6.0			Watt
<b>Pin</b>	Power Input	Vcc = 28 Volts			1.14	
<b>Pg</b>	Power Gain		7.2	7.5		dB
$\eta_c$	Collector Efficiency			40		%
<b>VSWR1</b>	Load Mismatch Tolerance				10:1	

<b>BVebo</b>	Emitter to Base Breakdown	Ie = 3.0 mA	3.5			Volts
<b>BVces</b>	Collector to Emitter Breakdown	Ic = 25mA	55			Volts
<b>Icbo</b>	Collector Leakage Current	Vcb = 28 V		1.0		mA
<b>Cob</b>	Output Capacitance	Vcb= 28V, F=1 MHz		6.5		pF
<b>Hfe</b>	DC - Current Gain	Ic = 100 mA, Vce = 5V	20		100	
$\theta_{jc}$	Thermal Resistance	TC = 25°C			9.0	°C/W

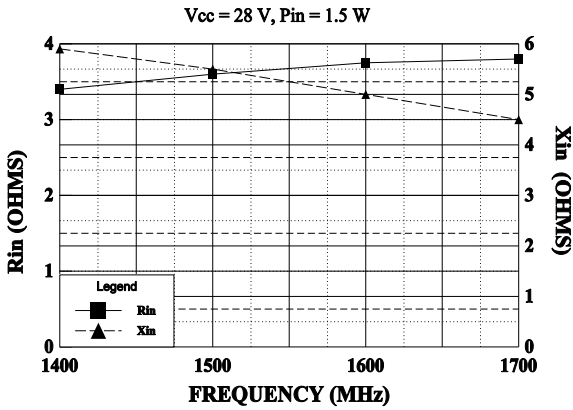
Initial Issue June, 1994

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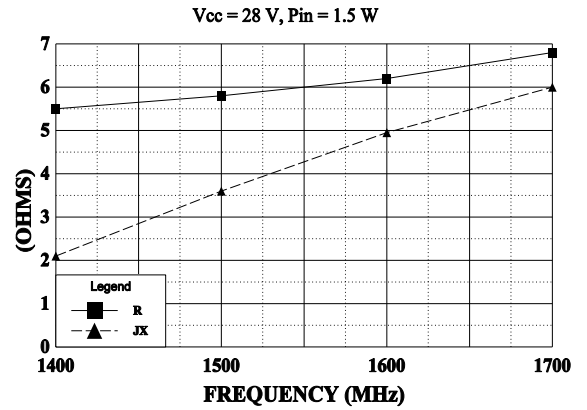
**POWER OUTPUT VS FREQUENCY**



**INPUT IMPEDANCE**



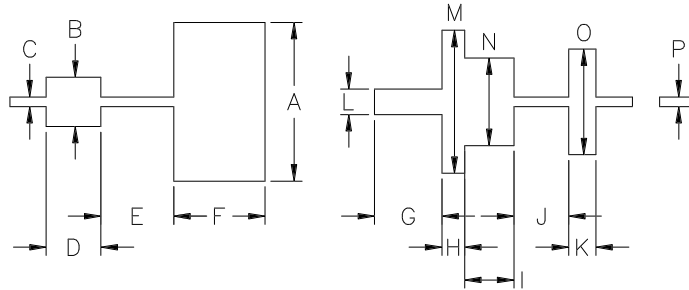
**LOAD IMPEDANCE**



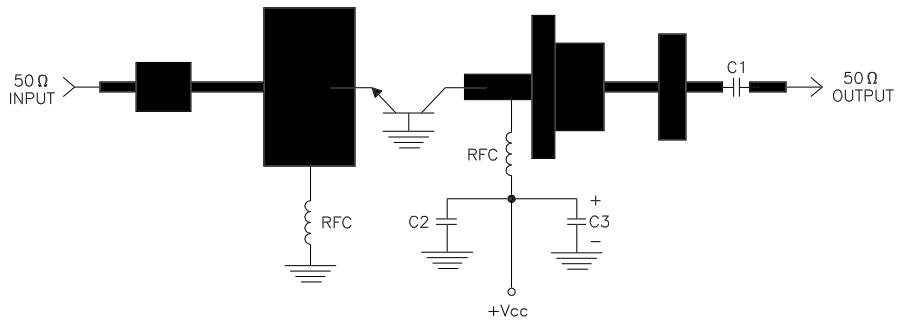
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.870
B	.270
C	.053
D	.300
E	.400
F	.500
G	.370
H	.125
I	.270
J	.300
K	.150
L	.140
M	.785
N	.480
O	.580
P	.053



1417-6A TEST CIRCUIT



DIELECTRIC = 19.4 MIL THICK  
 TFE, Er=2.43  
 C1, C2 = 62pF CHIP ATC "A"  
 C3 = 10MFD @ 35V  
 RFC = 4 turns #22 wire 1/16" I.D.



CAGE OPJR2	DWG NO. 1417-6A	REV A
SCALE 1/1	SHEET	