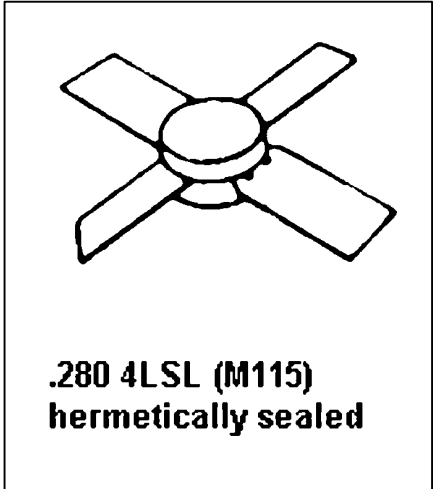


MS2204

**RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS**

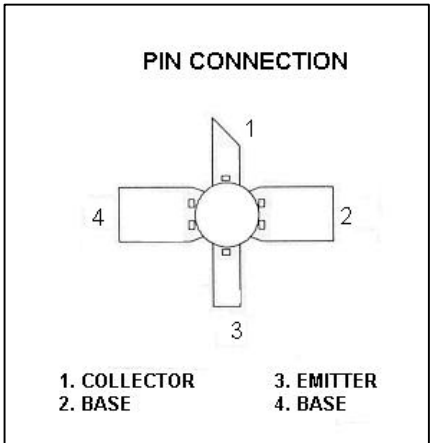
Features

- 1090 MHz
- 18 VOLTS
- P_{OUT} = 0.6 WATTS
- G_P = 10.8 dB MINIMUM
- CLASS A OPERATION
- INFINITE VSWR CAPABILITY @ RATED CONDITIONS
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS2204 is a common emitter, silicon NPN, microwave transistor designed for Class A driver applications under DME or IFF pulse conditions. This device is capable of withstanding an infinite load VSWR at any phase angle under rated conditions.



ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
P _{DISS}	Total Power Dissipation* (see Safe Area)		W
I _C	Device Current*	300	mA
V _{CE}	Collector-Emitter Bias Voltage*	20	V
T _j	Junction Temperature (Pulsed RF Operation)	+200	°C
T _{stg}	Storage Temperature	-65 to +150	°C

Thermal Data

R _{TH(J-C)}	Junction-case Thermal Resistance	35	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

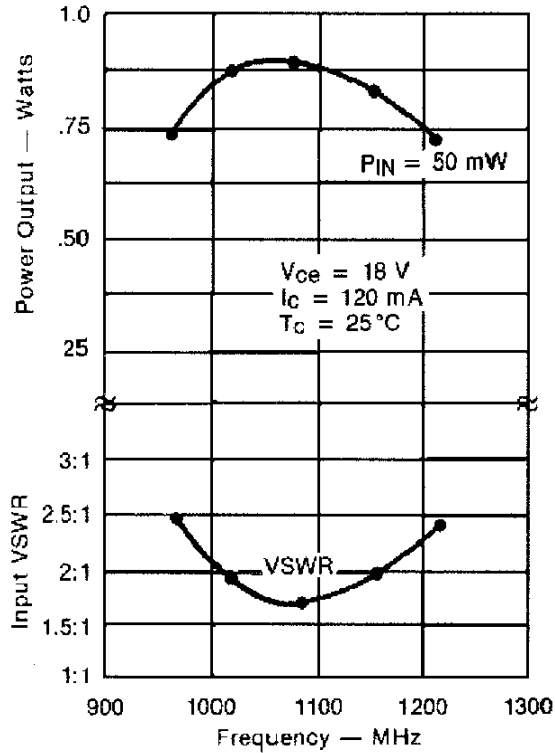
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CEO}	I_C = 5.0 mA I_B = 0 mA	20	---	---	V
BV_{CBO}	I_C = 1.0 mA I_E = 0 mA	50	---	---	V
BV_{EBO}	I_E = 1.0 mA I_C = 0 mA	3.5	---	---	V
I_{CES}	V_{CB} = 28 V I_E = 0 mA	---	---	1.0	mA
h_{FE}	V_{CE} = 5.0 V I_C = 100 mA	15	---	120	---

DYNAMIC

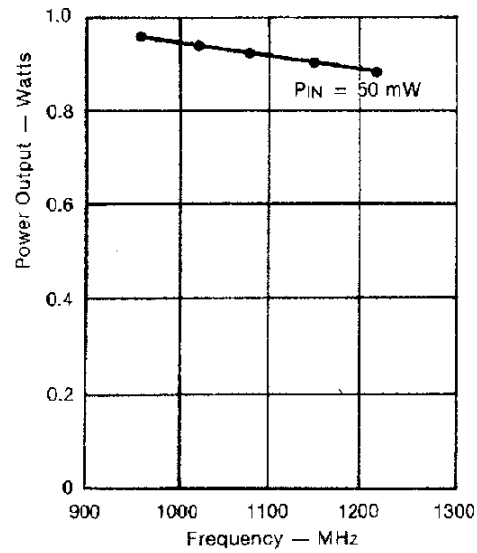
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	f = 1025 – 1150 MHz P_{IN} = 50mW	0.6			W
G_{PE}	f = 1025 - 1150 MHz P_{IN} = 50 mW	10.8	---	---	dB

Conditions: **V_{CE} = 18V** **I_{CQ} = 120 mA**
 Pulse width = 10mS **Duty Cycle = 1%**

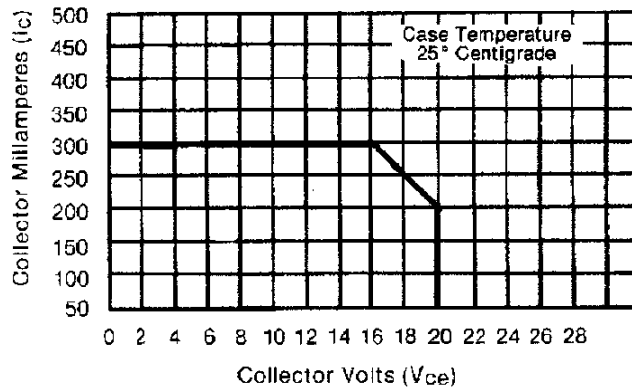
**TYPICAL PERFORMANCE
BROADBAND POWER AMPLIFIER**



**NARROWBAND POWER
OUTPUT vs FREQUENCY**



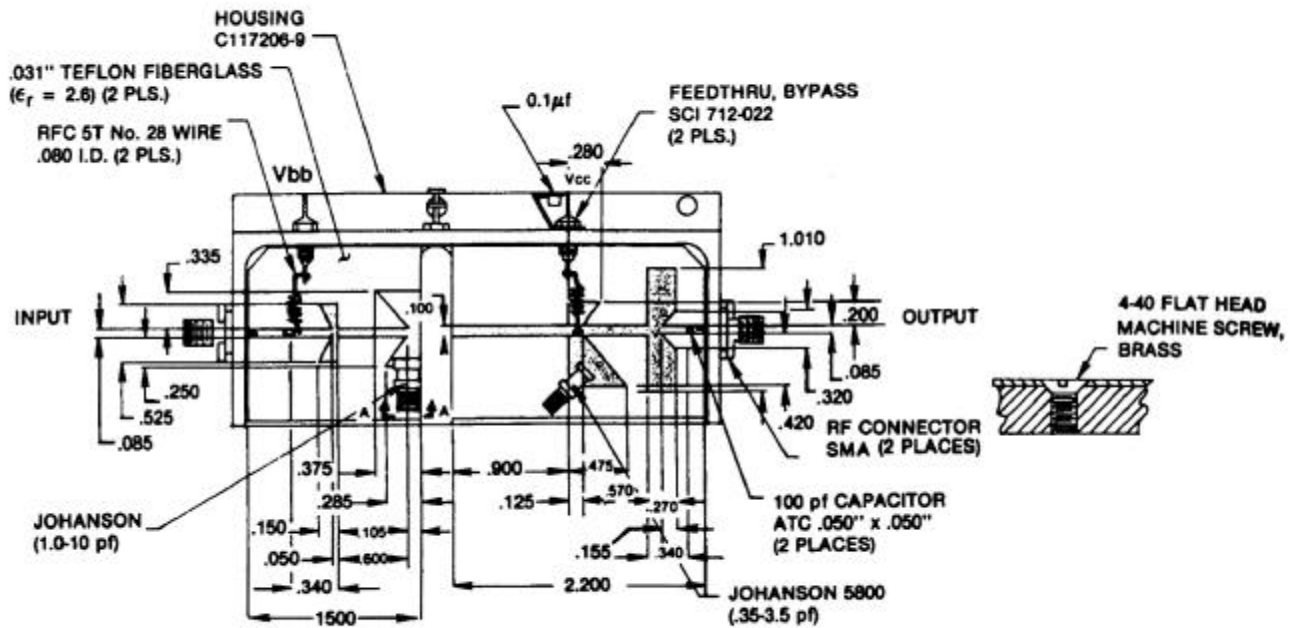
**MAXIMUM OPERATING AREA for
FORWARD BIAS OPERATION**



MS2204

TEST CIRCUIT

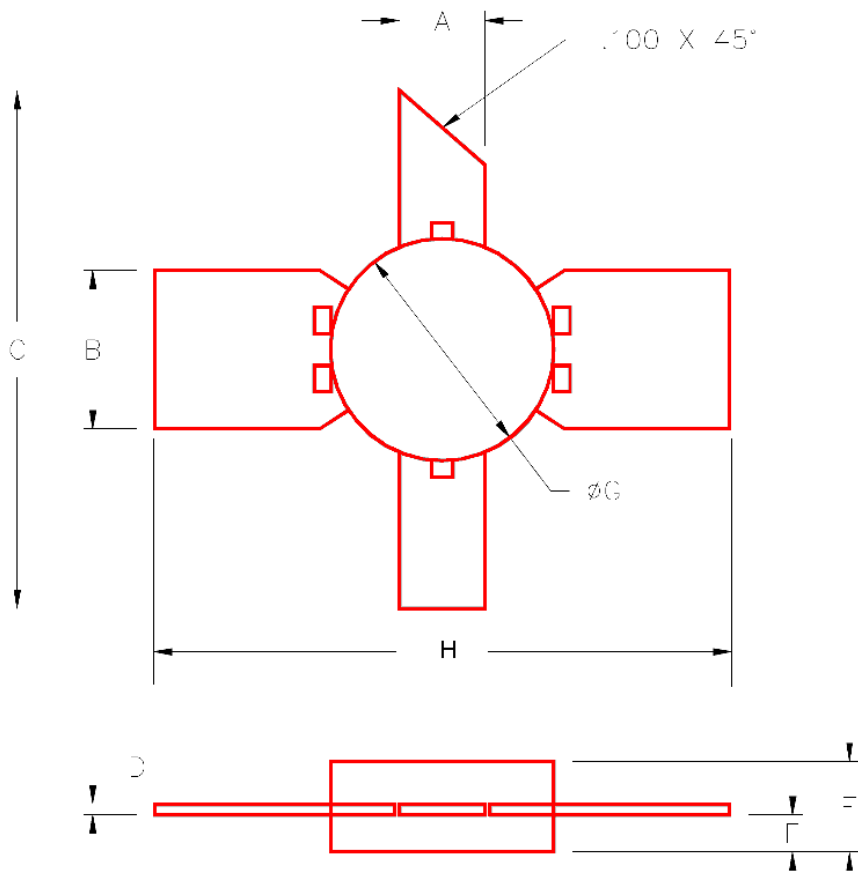
Ref.: Dwg. No. C127297



All dimensions are in inches.

PACKAGE MECHANICAL DATA

PACKAGE STYLE M115



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM	MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.095/2,41	.105/2,67		
B	.195/4,95	.205/5,21		
C	1.000/25,40			
D	.004/0,10	.007/0,18		
E	.050/1,27	.065/1,65		
F	.120/3,05	.135/3,43		
G	.275/6,99	.285/7,21		
H	1.000/25,40			