



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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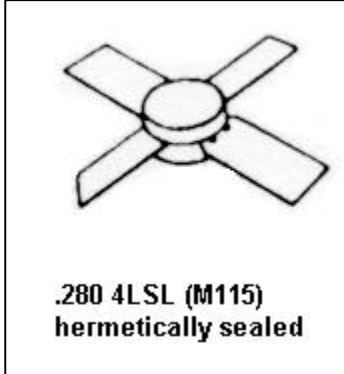


MS2202

**RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS**

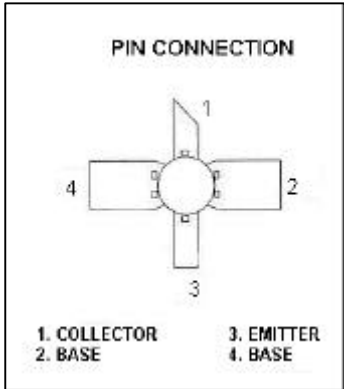
Features

- 1025 - 1150 MHz
- 35 VOLTS
- INPUT MATCHING
- P_{OUT} = 2.0 WATTS
- G_P = 9.0 dB MINIMUM
- LOW THERMAL RESISTANCE
- COMMON BASE CONFIGURATION



DESCRIPTION:

The MS2202 is a low power Class C NPN transistor specifically designed for avionics driver applications. This device is capable of withstanding an ∞:1 load VSWR at any phase angle under full rated conditions. Low RF thermal resistance and semi-automatic bonding techniques ensure high reliability and product consistency.



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

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation	10	W
I _C	Device Current	250	mA
V _{CC}	Collector Supply Voltage	37	V
T _J	Junction Temperature	200	°C
T _{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

R _{TH(J-C)}	Junction-case Thermal Resistance	10.0	°C/W
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MS2202

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 1 mA	I_E = 0 mA	45	---	---	V
BV_{EBO}	I_E = 1 mA	I_C = 0 mA	3.5	---	---	V
BV_{CER}	I_C = 5 mA	R_{BE} = 10Ω	45	---	---	V
I_{CES}	V_{CE} = 35 V		---	---	1.0	mA
HFE	V_{CE} = 5 V	I_C = 100 mA	30	---	300	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 1025 - 1150 MHz	P_{IN} = 0.25W	V_{CC} = 35V	2.0	---	---	W
η_C	f = 1025 - 1150 MHz	P_{IN} = 0.25W	V_{CC} = 35V	35	---	---	%
G_p	f = 1025 - 1150 MHz	P_{IN} = 0.25W	V_{CC} = 35V	9.0	---	---	dB

Conditions Pulse Width = 10μSec Duty Cycle = 1%

IMPEDANCE DATA

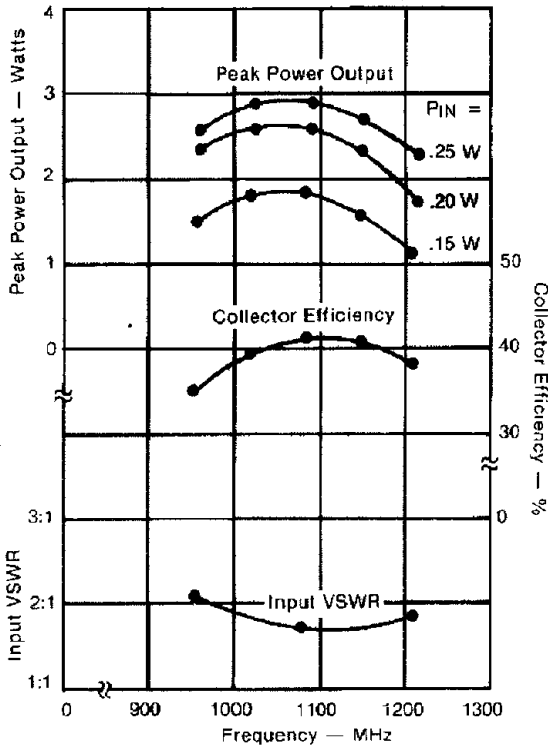
FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
960 MHz	10.7 + j7.0	26.5 + j41.0
1025 MHz	15.3 + j10.0	26.0 + j43.5
1090 MHz	17.8 + j10.2	23.5 + j44.0
1150 MHz	16.8 + j15.0	20.5 + j41.5
1215 MHz	14.4 + j13.0	17.5 + j37.5

P_{IN} = 0.25 W

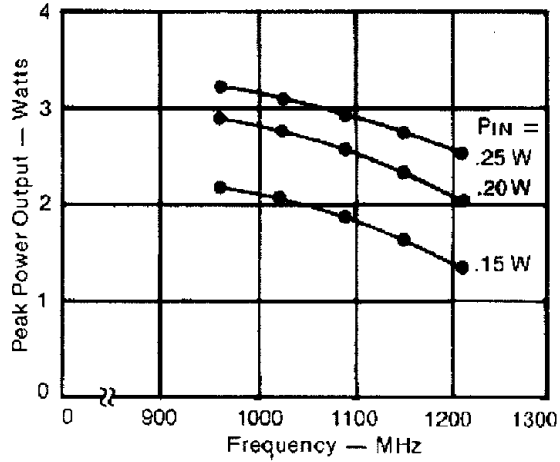
V_{CC} = 35 V

TYPICAL PERFORMANCE

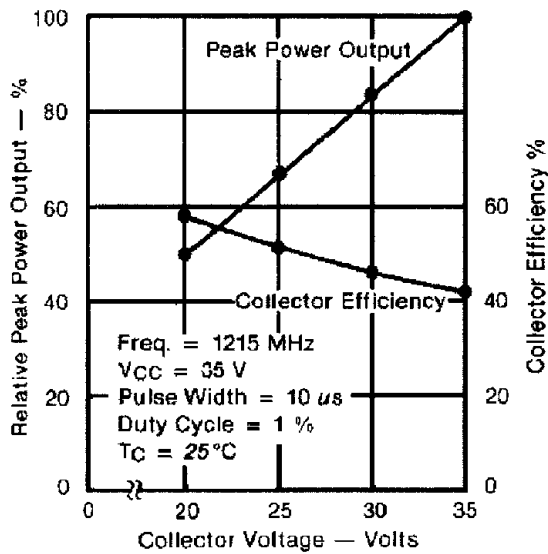
BROADBAND POWER AMPLIFIER



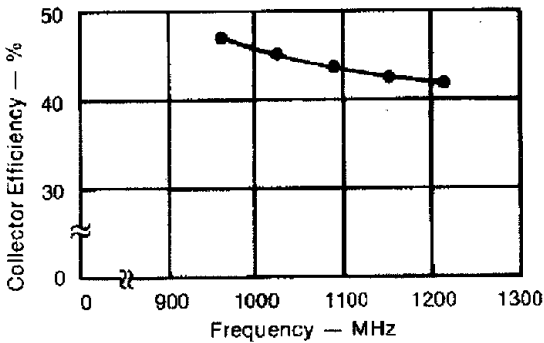
NARROWBAND PEAK POWER OUTPUT vs FREQUENCY



RELATIVE PEAK POWER OUTPUT & COLLECTOR EFFICIENCY vs COLLECTOR VOLTAGE



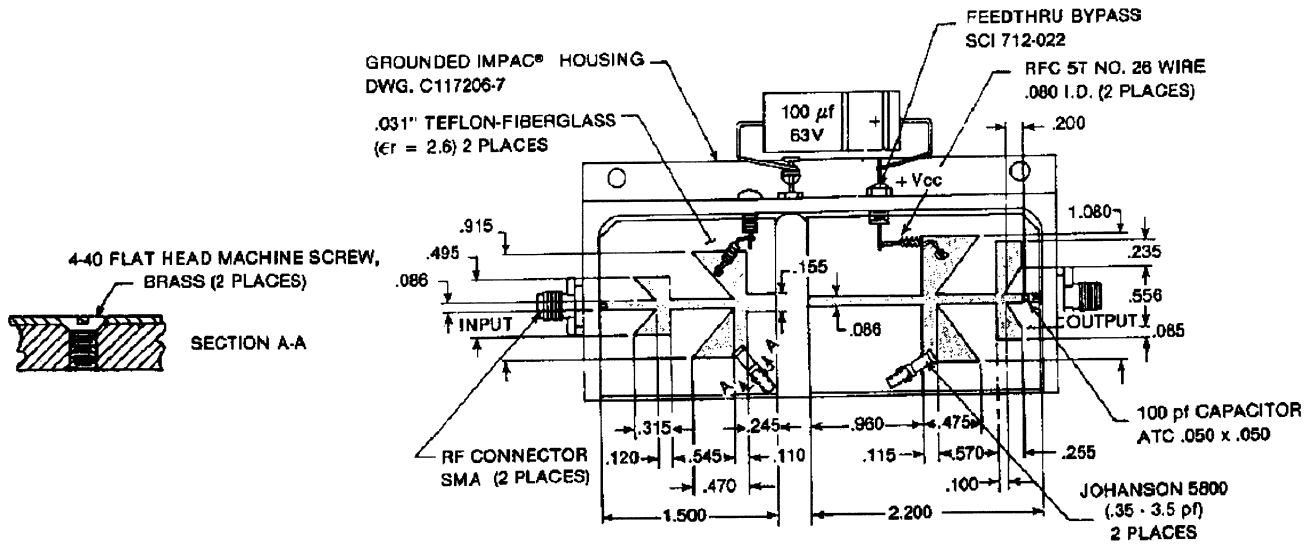
NARROWBAND COLLECTOR EFFICIENCY vs FREQUENCY



MS2202

TEST CIRCUIT

Ref.: Dwg. No. C127298



All dimensions are in inches.

PACKAGE MECHANICAL DATA

