

140 COMMERCE DRIVE MONTGOMERYVILLE, PA 18936-1013

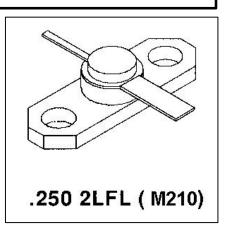
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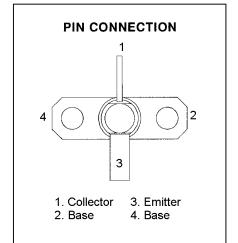
MS3302

RF & MICROWAVE TRANSISTORS GENERAL PURPOSE AMPLIFIER APPLICATIONS

Features

- 3.0 GHz
- GOLD METALIZATION
- EMITTER BALLASTED
- P_{OUT} = 4.5 W MINIMUM
- $G_P = 4.5 dB$
- ∞:1 VSWR CAPABILITY @ RATED CONDITIONS
- COMMON BASE CONFIGURATION





DESCRIPTION:

The MS3302 is a common base silicon NPN microwave transistor designed for general purpose applications over the $1.0-3.0\,\text{GHz}$ frequency range. The MS3302 utilizes an emitter ballasted die geometry for maximum load VSWR capability under rated conditions.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation	17.6	W
V _{cc}	Collector-Supply Voltage	30	V
Ic	Device Current	700	mA
T _J	Junction Temperature	200	°C
T _{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

R _{TH(J-C)}	Thermal Resistance Junction-case	8.5	°C/W
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^{*}Applies only to rated RF amplifier operation



MS3302

ELECTRICAL SPECIFICATIONS (Tcase = 25°C) STATIC

Symbol	Test Conditions			Value		
Symbol			Min.	Тур.	Max.	Unit
BVcbo	I _C = 1mA	I _E = 0mA	45			V
BVcer	I _C = 5mA	$R_{BE} = 10\Omega$	45			V
BVebo	I _E = 1mA	$I_C = 0mA$	3.5			V
Icbo	V _{CE} = 28V				0.5	mA
H _{FE}	V _{CE} = 5V	I _C = 500mA	30		300	

DYNAMIC

Symbol	ol Test Conditions			Value			
Symbol			Min.	Тур.	Max.	Unit	
P _{OUT}	f = 3.0GHz	P _{IN} = 1.59W	V _{CC} = 28V	4.5			w
G _P	f = 3.0GHz	P _{IN} = 1.59W	V _{CC} = 28V	4.5			dB
η _C	f = 3.0GHz	P _{IN} = 1.59W	V _{CC} = 28V	30			%
Сов	f =1 MHz	V _{CB} =28V				7.5	pf

IMPEDANCE DATA

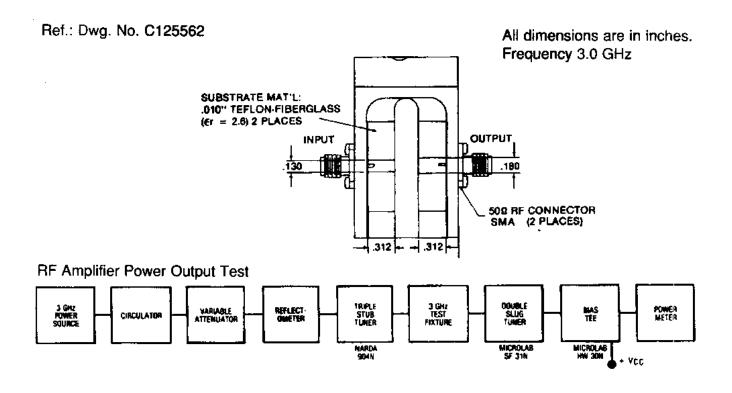
FREQ	$Z_IN(\Omega)$	$Z_{CL}(\Omega)$
1.0 GHz	1.7 + j7.2	9.5 + j15.5
1.7 GHz	2.0 + j11.2	4.2 + j6.7
2.0 GHz	2.4 + j14.0	3.5 + j2.5
2.3 GHz	3.6 + j17.4	3.1 + j1.2
2.7 GHz	6.0 + j21.0	3.0 – j3.8
3.0 GHz	9.5 + j24.0	3.0 – j7.2

V_{CC}=28V P_{IN} = 1.6W



MS3302

TEST CIRCUIT







PACKAGE MECHANICAL DATA

