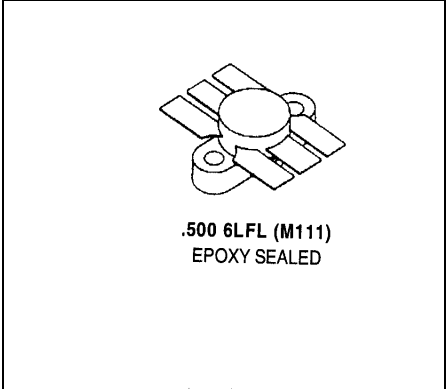


MS1527

**RF & MICROWAVE TRANSISTORS
UHF COMMUNICATIONS APPLICATIONS**

Features

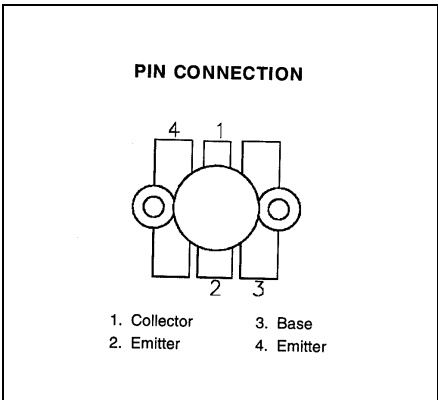
- 400 MHz
- 28 VOLTS
- P_{OUT} = 25 WATTS
- G_P = 9 dB GAIN MINIMUM
- EMITTER BALLASTED
- METAL/CERAMIC PACKAGE
- INTERNAL INPUT MATCHING
- REFRACTORY/GOLD METALIZATION



DESCRIPTION:

The MS1527 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for superior ruggedness.

The MS1527 can withstand 20:1 VSWR under rated operating conditions and is internally input matched to optimize power gain and efficiency over the band.



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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	30	V
V _{EBO}	Emitter-Base Voltage	3.5	V
I _C	Device Current	3.0	A
P _{DISS}	Power Dissipation	70	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	-65 +150	°C

Thermal Data

R _{TH(J-C)}	Thermal Resistance Junction-case	2.5	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 50 mA	I_E = 0mA	60	---	---	V
BV_{EBO}	I_E = 5 mA	I_C = 0 mA	3.5	---	---	V
BV_{CES}	I_C = 50 mA	V_{BE} = 0 V	60	---	---	V
I_{CBO}	V_{CB} = 30 V	I_E = 0 mA	---	---	3.0	mA
HFE	V_{CE} = 5 V	I_C = 500 A	10	---	120	---

DYNAMIC

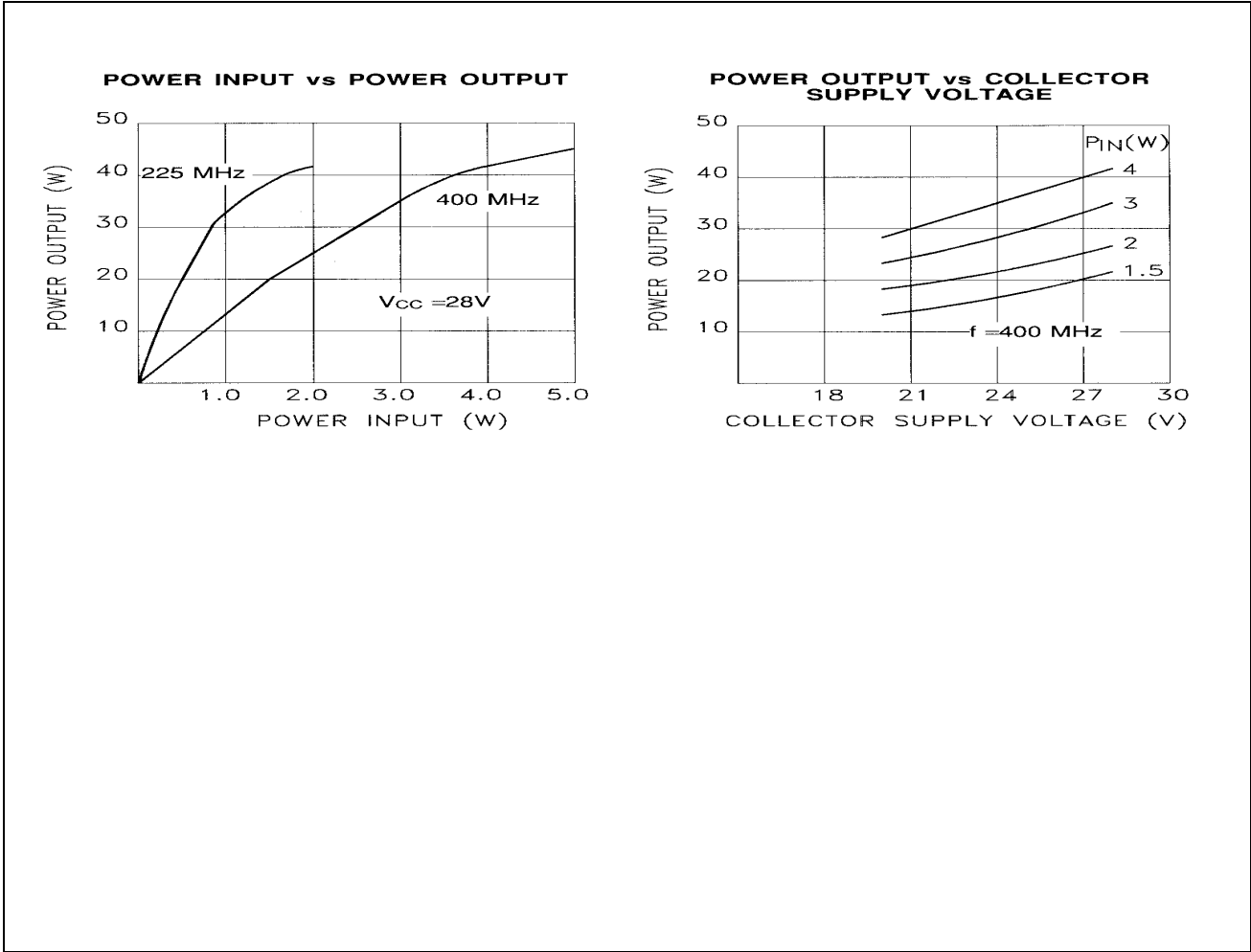
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{OUT}	f = 400 MHz	V_{CC} = 28 V	25	---	---	W
η_C	f = 400 MHz	V_{CC} = 28 V	50	---	---	%
G_P	f = 400 MHz	V_{CC} = 28 V	9.0	---	---	dB
VSWR	f = 400 MHz	V_{CC} = 28 V	20:1	---	---	---
C_{OB}	f = 1 MHz	V_{CB} = 28V	---	---	30	pF

IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
225 MHz	1.40 + j 2.5	7.55 + j 0.0
275 MHz	1.25 + j 3.3	7.5 - j 0.05
300 MHz	1.10 + j 4.0	7.5 - j 1.00
350 MHz	1.10 + j 4.7	6.8 - j 1.15
400 MHz	1.70 + j 5.1	6.0 - j 1.30

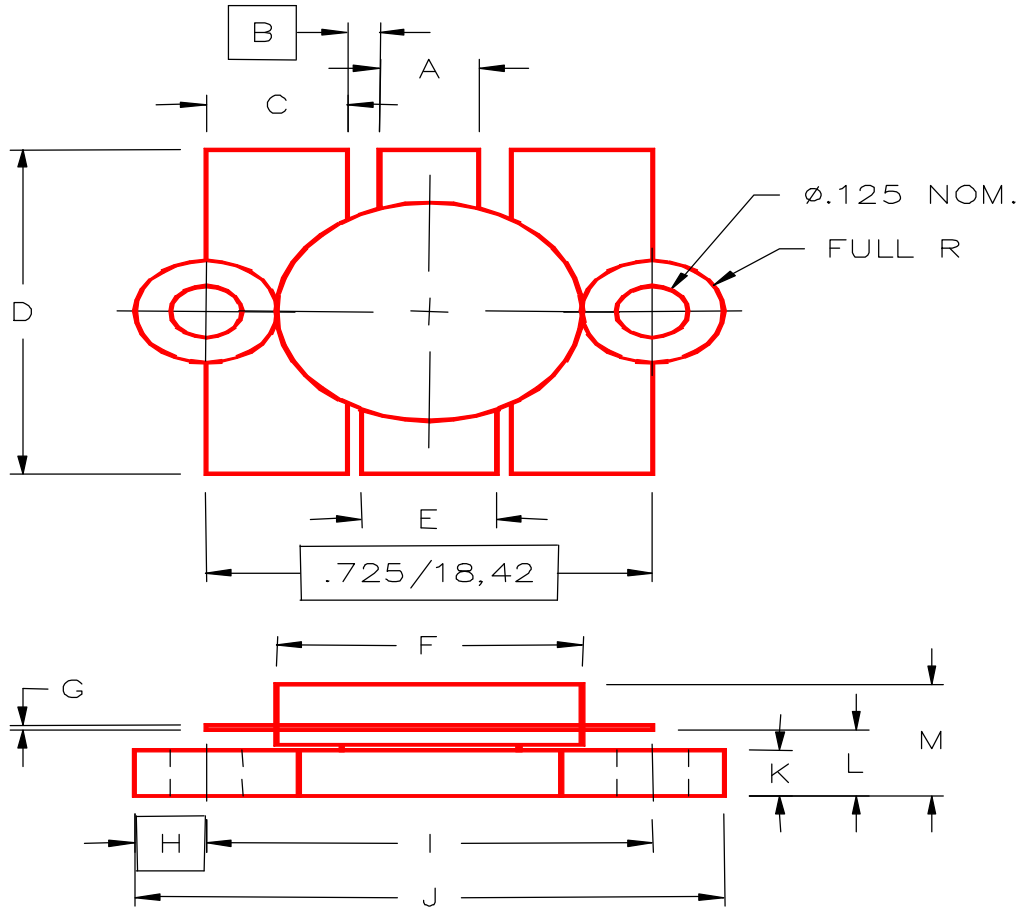
P_{OUT} = 25 W
V_{CE} = 28 V

TYPICAL PERFORMANCE



PACKAGE MECHANICAL DATA

PACKAGE STYLE M111



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.150/3,43	.160/4,06	I	.720/18,29	.730/18,54
B	.045/1,14		J	.970/24,64	.980/24,89
C	.210/5,33	.220/5,59	K	.095/2,41	.105/2,67
D	.835/21,21	.865/21,97	L	.150/3,81	.170/4,32
E	.200/5,08	.210/5,33	M		.280/7,11
F	.490/12,45	.510/12,95			
G	.003/0,08	.007/0,18			
H	.125/3,18				