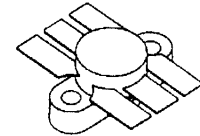


MS1527
**RF & MICROWAVE TRANSISTORS
UHF COMMUNICATIONS APPLICATIONS**
Features

- 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

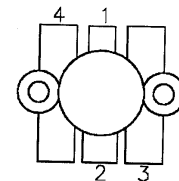


.500 6LFL (M111)
EPOXY SEALED

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.

PIN CONNECTION


1. Collector 3. Base
2. Emitter 4. Emitter

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
---------------	----------------------------------	-----	------

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 50 mA	I _E = 0 mA	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

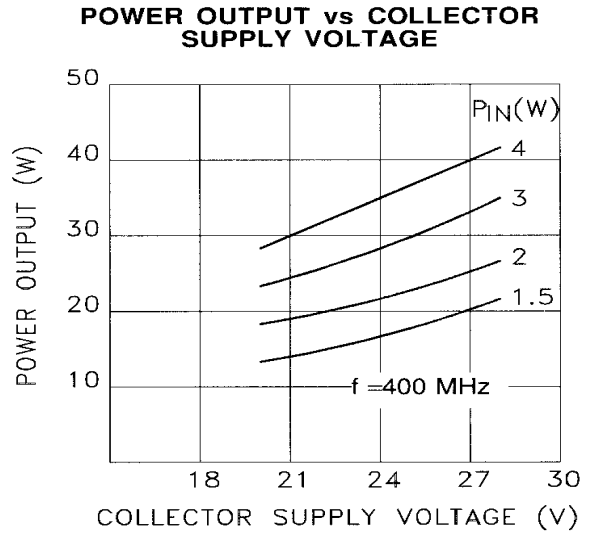
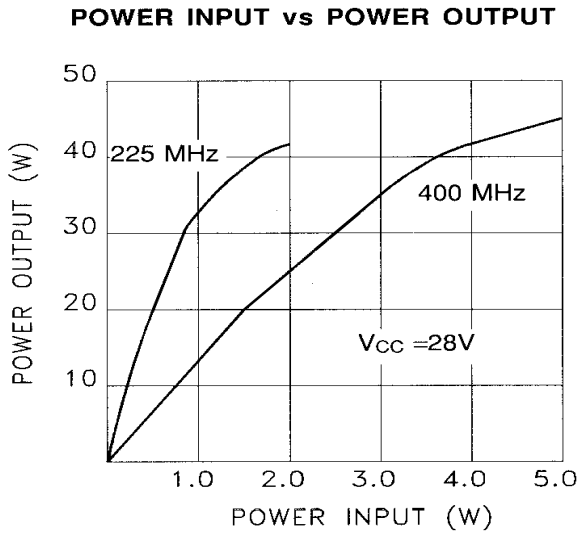
IMPEDANCE DATA

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

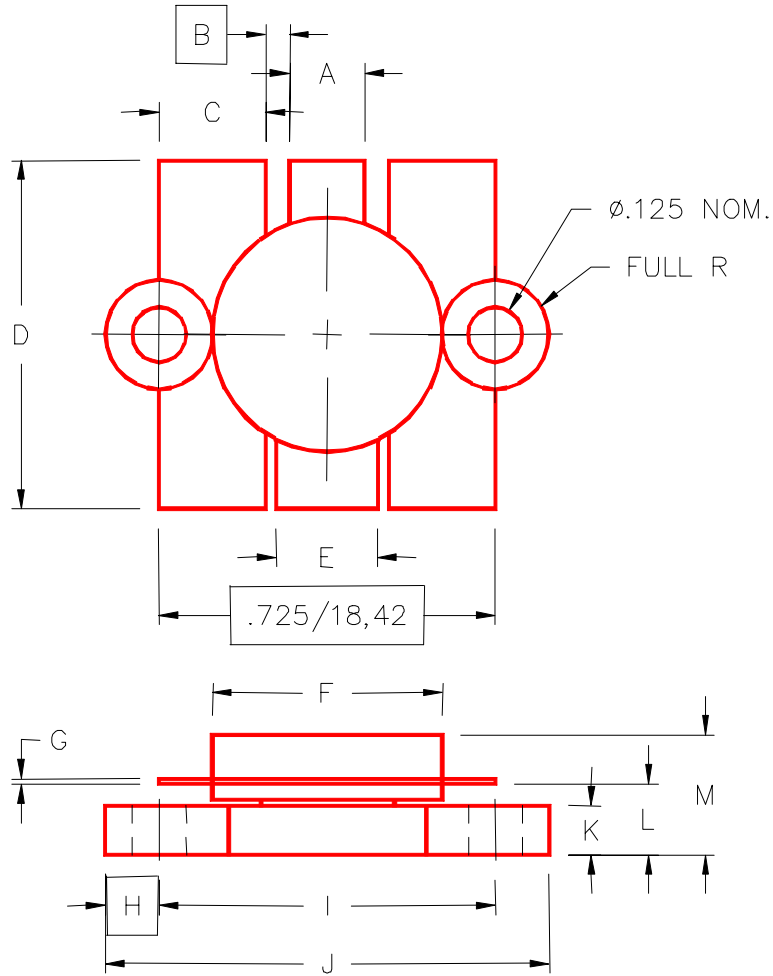
V_{CE} = 28 V

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				