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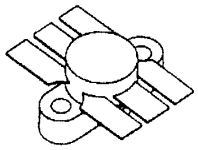
MS1511

RF & MICROWAVE TRANSISTORS
UHF COMMUNICATIONS APPLICATIONS



.500 6LFL (M111)
EPOXY SEALED

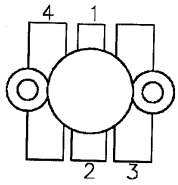
Features

- 400 MHz
- 28 VOLTS
- P_{OUT} = 70 WATTS
- G_P = 8.4 dB GAIN MINIMUM
- EFFICIENCY 60%
- GOLD METALLIZATION
- COMMON EMITTER CONFIGURATION

DESCRIPTION:

The MS1511 is a 28 V Class C epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes diffused emitter resistors to achieve VSWR of 10:1 under operating conditions, and is internally input matched to optimize power gain and efficiency over the 225 – 400 MHz band.

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (Tcase = 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	4.0	V
I_C	Device Current	8.0	A
P_{DISS}	Power Dissipation	220	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	1.25	°C/W

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			
			Min.	Typ.	Max.	Unit
BV_{CBO}	I_C = 50 mA	I_E = 0mA	60	---	---	V
BV_{CEO}	I_E = 50 mA	I_B = 0 mA	30	---	---	V
BV_{EBO}	I_C = 10 mA	I_C = 0mA	4.0	---	---	V
I_{CBO}	V_{CB} = 30 V	I_E = 0 mA	---	---	5	mA
HFE	V_{CE} = 5 V	I_C = 2 A	20	---	80	---

DYNAMIC

Symbol	Test Conditions			Value			
				Min.	Typ.	Max.	Unit
P_{OUT}	f = 400 MHz	P_{IN} = 10 W	V_{CE} = 28 V	70	---	---	W
G_P	f = 400 MHz	P_{IN} = 10 W	V_{CE} = 28 V	8.4	---	---	dB
C_{OB}	f = 1 MHz	V_{CB} = 28 V		---	---	80	pF

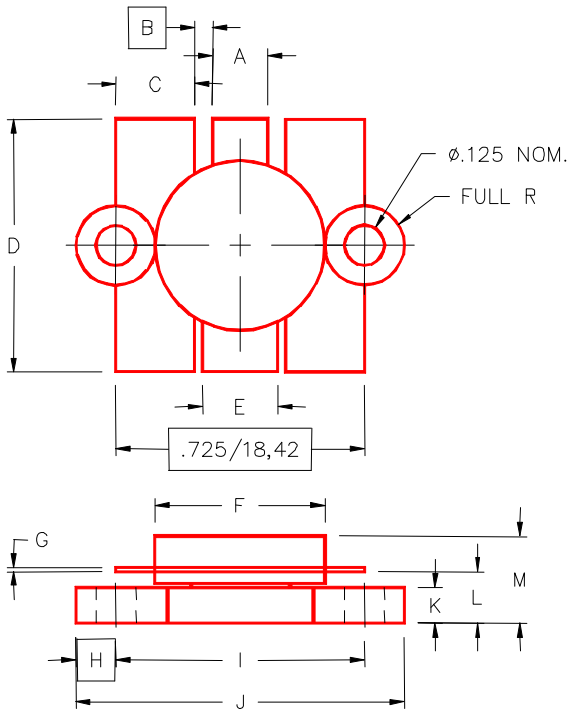
IMPEDANCE DATA

FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
225 MHz	1.44 - j0.87	1.70 - j2.6
400 MHz	1.29 + j0.87	3.0 + j0.87

P_{IN} = 10W
V_{CC} = 28V

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				