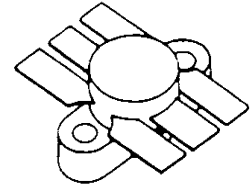


MS1251

RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

Features

- 175 MHz
- 12.5 VOLTS
- $P_{OUT} = 45$ WATTS
- $G_P = 6.5$ dB MINIMUM
- INPUT MATCHED
- COMMON EMITTER CONFIGURATION

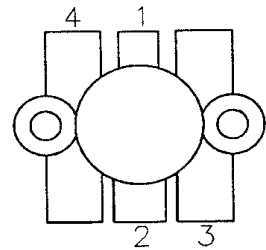


.500 6LFL (M111)
epoxy sealed

DESCRIPTION:

The MS1251 is an epitaxial silicon NPN planar transistor designed primarily for 12.5 V, Class C VHF communications. This device utilizes diffused emitter resistors to achieve infinite VSWR capability at rated operating conditions.

PIN CONNECTION



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

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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector - Base Voltage	36	V
V _{CEO}	Collector - Emitter Voltage	18	V
V _{CES}	Collector - Emitter Voltage	36	V
V _{EBO}	Emitter - Base Voltage	4.0	V
I _C	Device Current	6.0	A
P _{DISS}	Power Dissipation	145	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

R _{TH(J-C)}	Junction-case Thermal Resistance	1.2	°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	36	---	---	V
BV_{CES}	I_C = 50 mA	V_{BE} = 0 V	36	---	---	V
BV_{CEO}	I_C = 50 mA	I_B = 0 mA	18	---	---	V
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	4.0	---	---	V
I_{CES}	V_{CE} = 15 V	I_E = 0 mA	---	---	5	mA
H_{FE}	V_{CE} = 5 V	I_C = 5 A	20	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 138 - 175 MHz	P_{IN} = 10 W	V_{CE} = 12.5 V	45	---	---	W
G_p	f = 138 - 175 MHz	P_{IN} = 10 W	V_{CE} = 12.5 V	6.5	---	---	dB
η_c	f = 138 - 175 MHz	P_{IN} = 10 W	V_{CE} = 12.5 V	50	---	---	%
C_{OB}	f = 1 MHz	V_{CB} = 12.5 V		---	---	135	pf

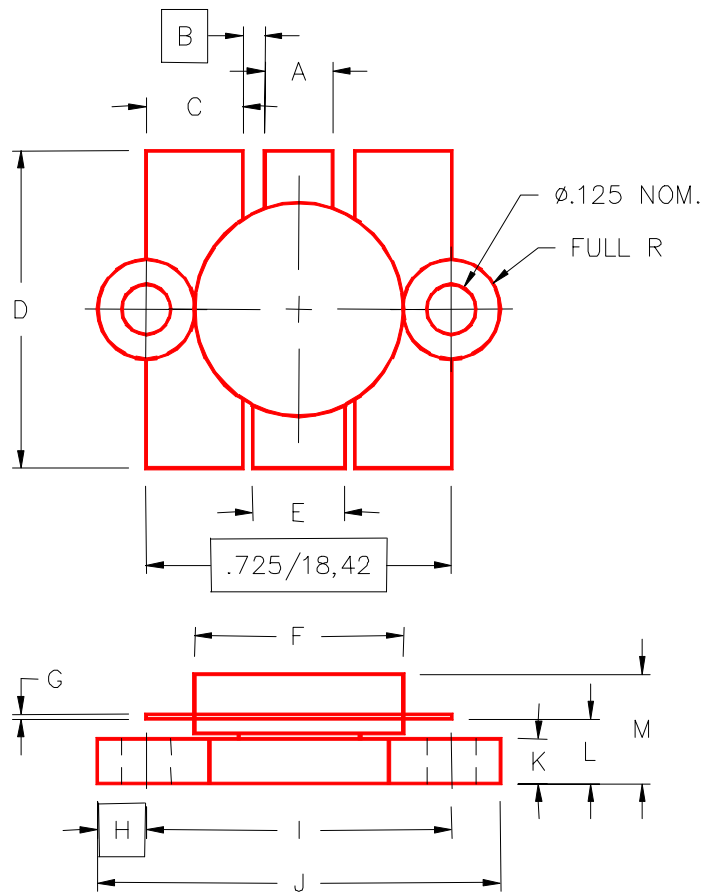
IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
175 MHz	1.38 + j0.44	1.70 + j0.48

P_{IN} = 10 W
V_{CE} = 12.5 V

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				