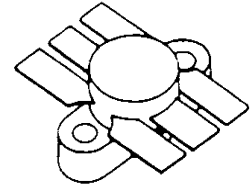


MS1251

**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

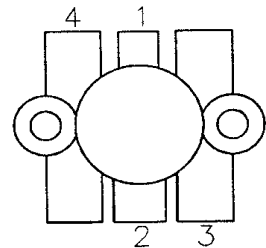


.500 6LFL (M111)
epoxy sealed

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
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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 = 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

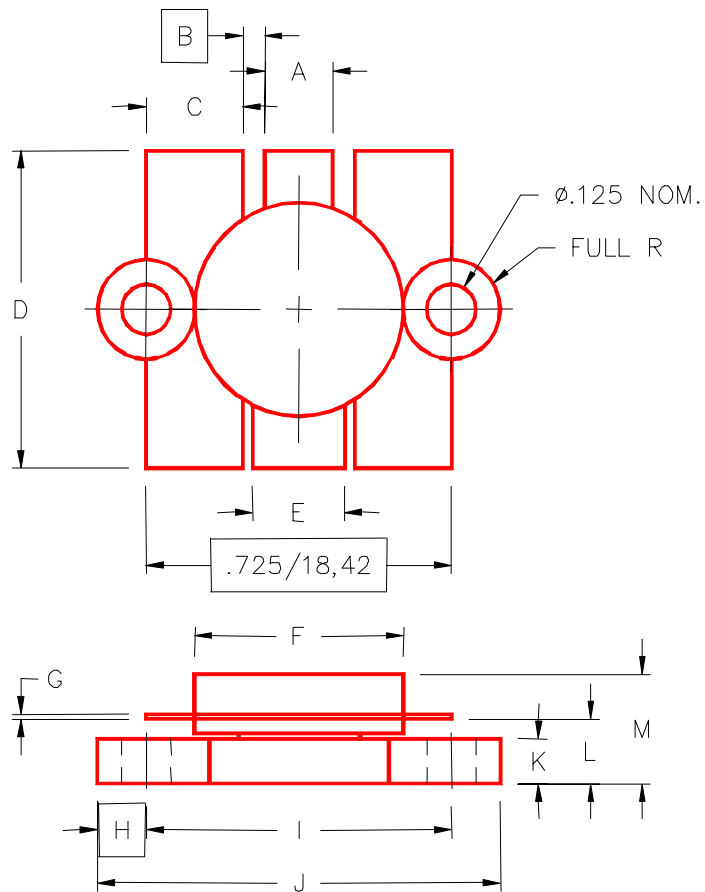
IMPEDANCE DATA

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				