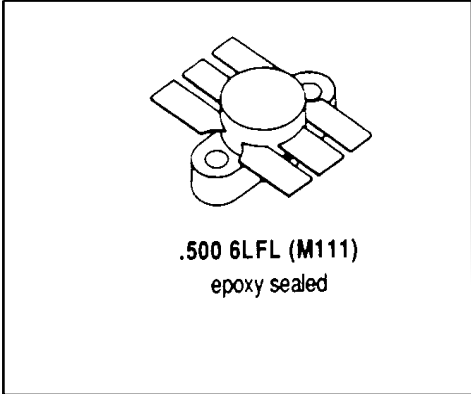


MS1009

**RF & MICROWAVE TRANSISTORS
VHF APPLICATIONS**

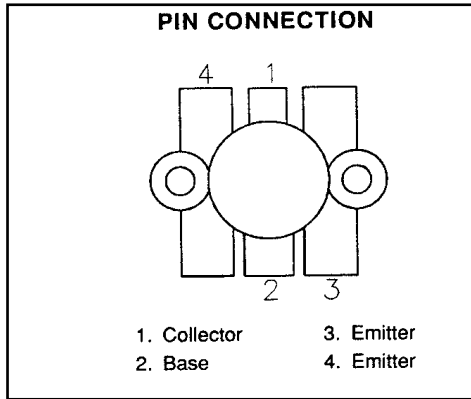
Features

- 136 – 175 MHz
- 28 VOLTS
- P_{OUT} = 125 WATTS
- G_P = 9.2 dB MINIMUM
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS1009 is a silicon NPN bipolar transistor designed primarily for VHF communication applications. Gold metallization and emitter ballasting combined with internal impedance matching provides long term reliability and stable operation over the entire 136-175 MHz communication band.



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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	65	V
V _{CEO}	Collector-Emitter Voltage	36	V
V _{CES}	Collector-Emitter Voltage	65	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Device Current	20	A
P _{DISS}	Power Dissipation	270	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	0.65	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 = 100mA	I _E = 0mA	65	---	---	V
BV _{CES}	I _C = 100mA	V _{BE} = 0V	65	---	---	V
BV _{CEO}	I _C = 100mA	I _B = 0mA	35	---	---	V
BV _{EBO}	I _E = 10mA	I _C = 0mA	4.0	---	---	V
I _{CES}	V _{CE} = 30V	I _E = 0mA	---	---	15	mA
h _{FE}	V _{CE} = 5V	I _C = 5A	20	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 138 - 175 MHz	P _{IN} = 15 W	V _{CE} = 28V	125	---	---	W
G _p	f = 138 - 175 MHz	P _{IN} = 15 W	V _{CE} = 28V	9.2	---	---	dB
η _c	f = 138 - 175 MHz	P _{IN} = 15 W	V _{CE} = 28V	55	---	---	%
C _{OB}	f = 1 MHz	V _{CB} = 28 V		---	---	250	pf

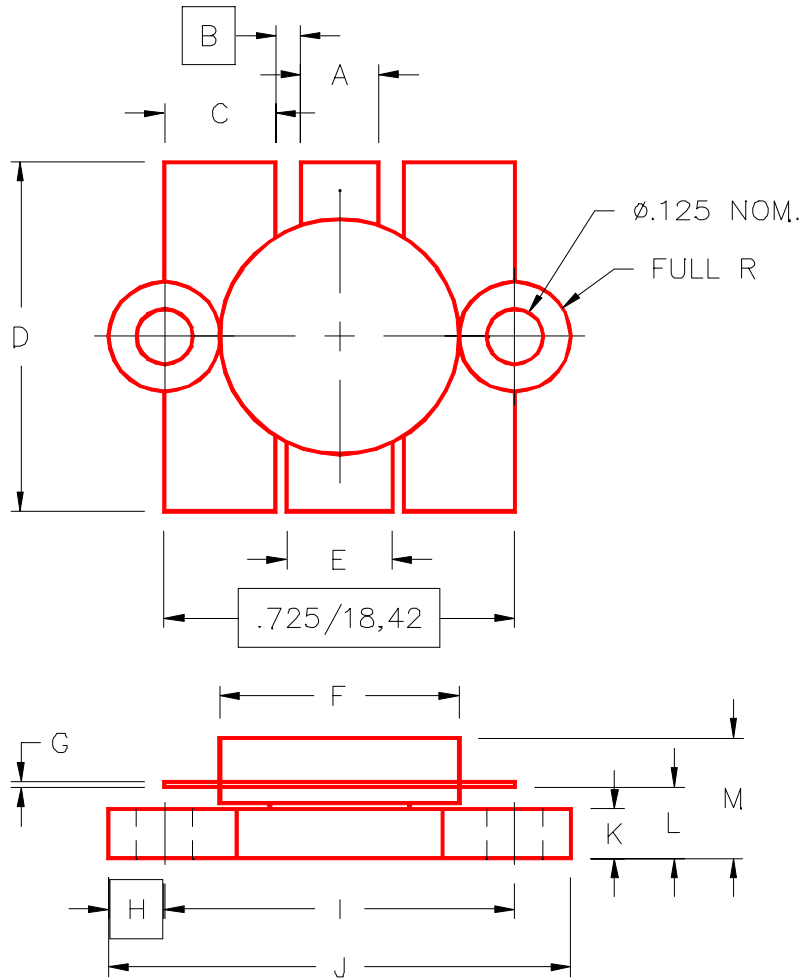
IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
136MHz	0.48 - j0.3	1.35 + j1.92
160MHz	0.40 - j0.97	1.0 + j1.5
175MHz	0.35 - j1.05	0.85 + j1.08

P_{OUT} = 125 W
V_{CE} = 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				