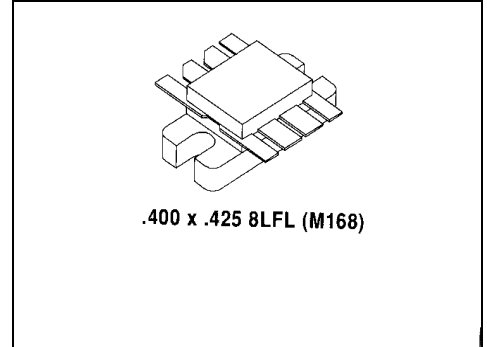


MS1508

RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

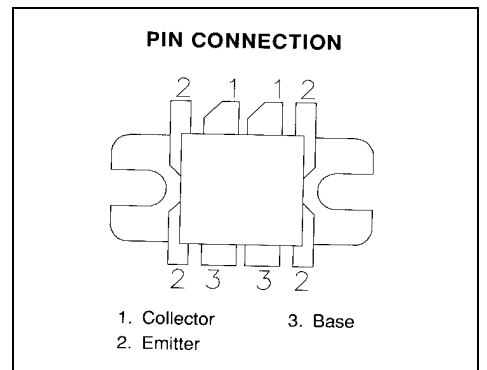
Features

- 400 MHz
- 28 VOLTS
- P_{OUT} = 125 WATTS
- G_p = 7.0 dB GAIN MINIMUM
- EFFICIENCY 60%
- GOLD METALLIZATION
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS1508 is a 28 V Class C gold metallized epitaxial silicon NPN planar transistor designed for UHF military and commercial equipment. The MS1508 is an internally matched, broadband device optimized for operation within the 225 – 400 MHz frequency range. This device utilizes diffused emitter resistors to achieve 10:1 VSWR load mismatch capability at rated operating conditions.



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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	33	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Device Current	15	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
----------------------	----------------------------------	------	------

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

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 100 mA	I_E = 0 mA	60	---	---	V
BV_{CES}	I_C = 80 mA	V_{BE} = 0 V	60	---	---	V
BV_{CEO}	I_C = 50 mA	I_B = 0 mA	33	---	---	V
BV_{EBO}	I_E = 20 mA	I_C = 0 mA	4.0	---	---	V
I_{CBO}	V_{CB} = 30 V	I_E = 0 mA	---	---	10	mA
HFE	V_{CE} = 5 V	I_C = 1 mA	20	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 400 MHz	P_{IN} = 25 W	V_{CC} = 28 W	125	---	---	W
G_P	f = 400 MHz	P_{IN} = 25 W	V_{CC} = 28 W	7.0	---	---	dB
η_C	f = 400 MHz	P_{IN} = 25 W	V_{CC} = 28 W	60	---	---	%

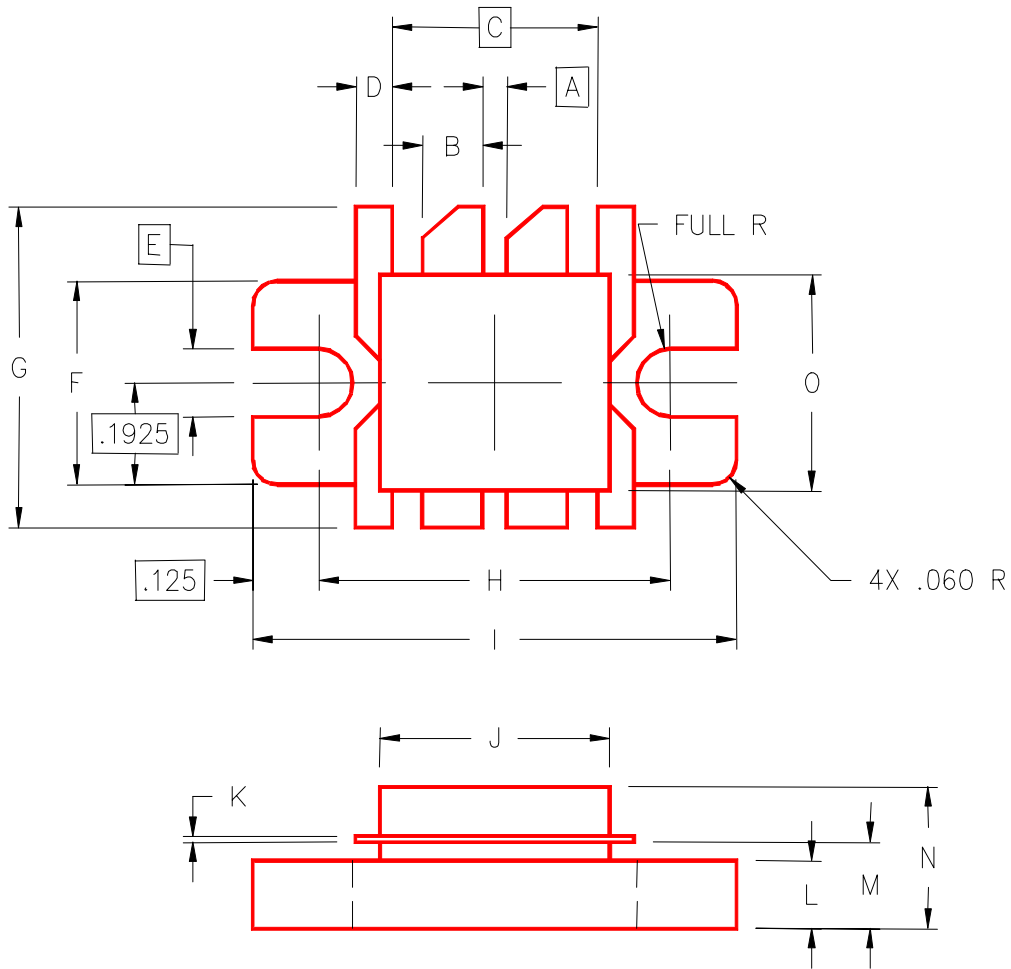
IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
225 MHz	0.5 + j2.5	8.8 – j3.5
400 MHz	1.5 + j1.7	5.0 – j0.0

P_{OUT} = 125 W
V_{CC} = 28 V

PACKAGE MECHANICAL DATA

PACKAGE STYLE M168



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.030/0,76		I	.895/22,73	.905/22,99
B	.115/2,92	.125/3,18	J	.420/10,67	.430/10,92
C	.360/9,14		K	.003/0,08	.007/0,18
D	.065/1,65	.075/1,91	L	.120/3,05	.130/3,30
E	.130/3,30		M	.159/4,04	.175/4,45
F	.380/9,65	.390/9,91	N		.280/7,11
G	.735/18,67	.765/19,43	O	.395/10,03	.405/10,29
H	.645/16,38	.655/16,64			