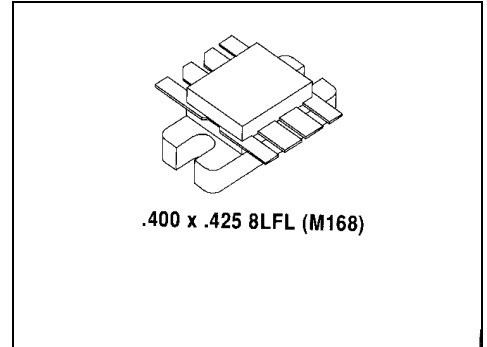


MS1509

RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

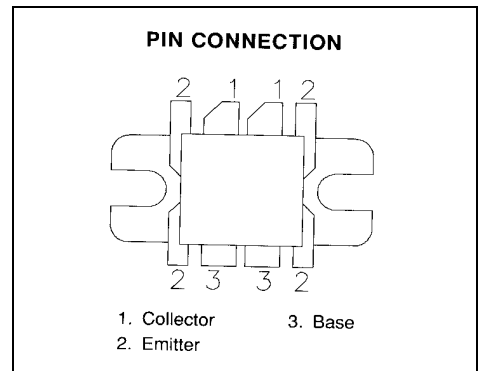
Features

- 500 MHz
- 28 VOLTS
- $P_{OUT} = 100$ WATTS
- $G_P = 5.5$ dB GAIN MINIMUM
- EFFICIENCY 55%
- GOLD METALLIZATION
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS1509 is a 28 V gold metallized, Class C 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 100 – 500 MHz frequency range. This device utilizes diffused emitter resistors to achieve 5:1 VSWR load mismatch capability at rated operating conditions.



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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	33	V
V _{CES}	Collector-Emitter Voltage	60	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Device Current	15	A
P _{DISS}	Power Dissipation	260	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	0.67	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

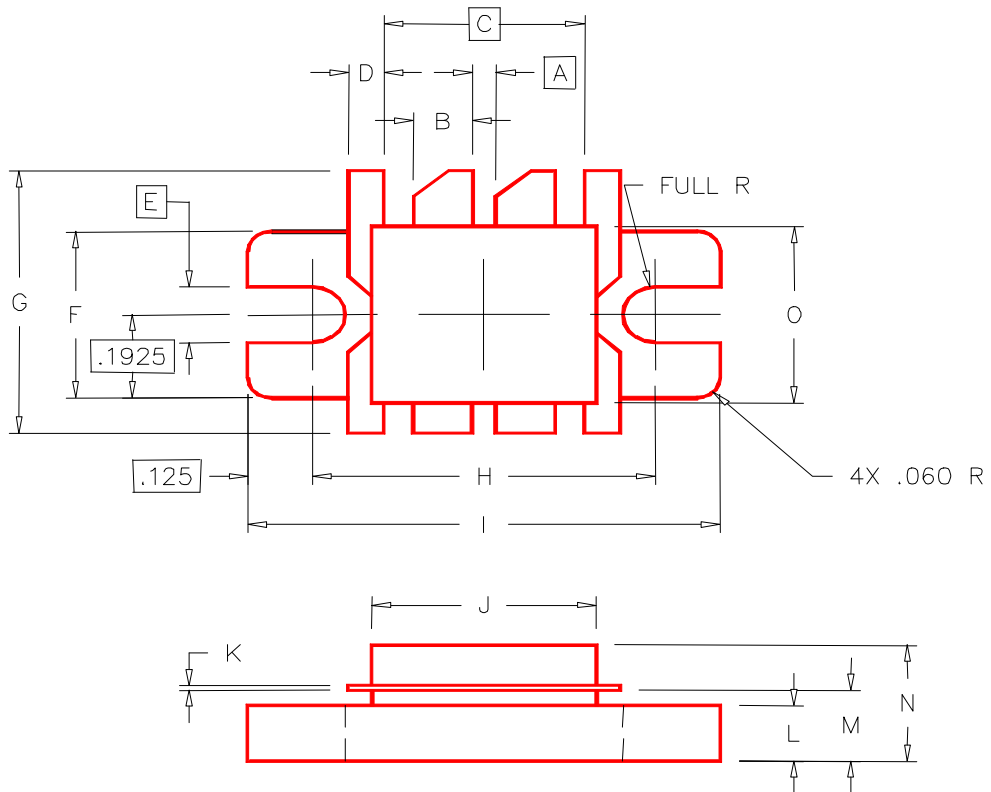
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 100 mA	I _E = 0 mA	60	---	---	V
BV _{CES}	I _C = 80 mA	V _{BE} = 0 V	60	---	---	V
BV _{CEO}	I _C = 50 mA	I _B = 0 mA	33	---	---	V
BV _{EBO}	I _E = 20 mA	I _C = 0 mA	4.0	---	---	V
I _{CBO}	V _{CB} = 30 V	I _E = 0 mA	---	---	10	mA
HFE	V _{CE} = 5 V	I _C = 1 mA	20	---	---	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 500 MHz	P _{IN} = 28.2 W	V _{CC} = 28 V	100	---	---	W
G _P	f = 500 MHz	P _{IN} = 28.2 W	V _{CC} = 28 V	5.5	---	---	dB
η _C	f = 500 MHz	P _{IN} = 28.2 W	V _{CC} = 28 V	55	---	---	%

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			