

MS2472

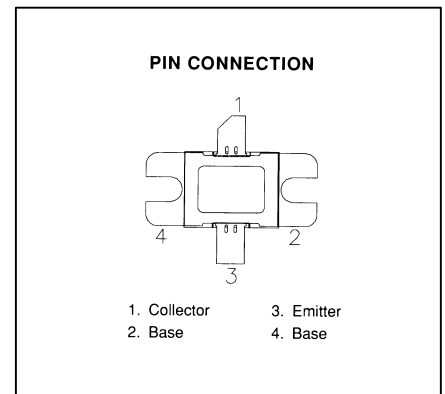
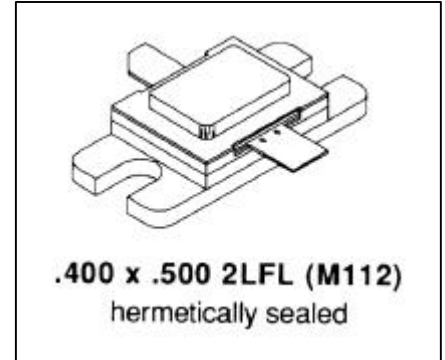
RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

Features

- DESIGNED FOR HIGH POWER PULSED IFF AND DME APPLICATIONS
- 600 W (typ.) IFF 1030 – 1090 MHz
- 550 W (min.) DME 1025 – 1150 MHz
- 1025 - 1150 MHz
- P_{OUT} = 550 WATTS
- G_p = 5.6 dB MINIMUM
- GOLD METALLIZATION
- INTERNAL INPUT/OUTPUT MATCHED
- COMMON BASE CONFIGURATION

DESCRIPTION:

The MS2472 is a hermetically sealed, gold metallized, silicon NPN power transistor. The MS2472 is designed for applications requiring high peak power and low duty cycles such as IFF and DME. The MS2472 is internal input/output matched resulting in improved broadband performance and a low thermal resistance.



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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	65	V
V _{CES}	Collector-Emitter Voltage	65	V
V _{EBO}	Emitter-Base Voltage	3.5	V
I _C	Device Current	40	A
P _{DISS}	Power Dissipation	1350	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	0.06	°C/W
----------------------	----------------------------------	------	------

MS2472

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 25 mA	I _E = 0 mA	65	---	---	V
BV _{CES}	I _C = 50 mA	V _E = 0 V	65	---	---	V
BV _{EBO}	I _C = 10 mA	I _C = 0 mA	3.5	---	---	V
I _{CES}	V _{CE} = 50 V	I _E = 0 mA	---	---	35	mA
H _{FE}	V _{CE} = 5 V	I _C = 0.25 A	5	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 1025 - 1150MHz	P _{IN} = 150W	V _{CE} = 50V	550	---	---	W
G _P	f = 1025 - 1150MHz	P _{IN} = 150W	V _{CE} = 50V	5.6	---	---	dB

Conditions: Pulse Width = 10 μs Duty Cycle = 1%

IMPEDANCE DATA

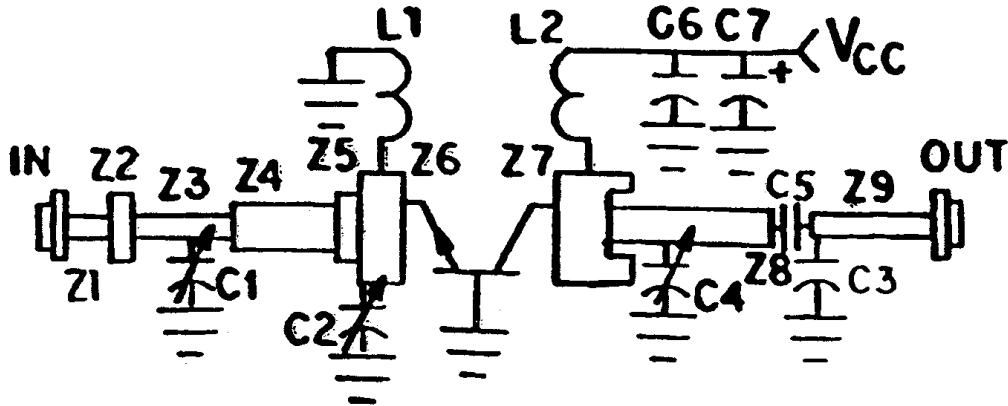
FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
1025 MHz	2.50 + j2.7	1.33 - j1.7
1090 MHz	2.60 + j1.6	1.33 - j1.9
1150 MHz	1.90+ j0.7	1.33 - j2.1

P_{IN} = 150W

V_{CC} = 50V

MS2472

TEST CIRCUIT



All Dimensions are in inches Unless Otherwise Specified

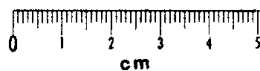
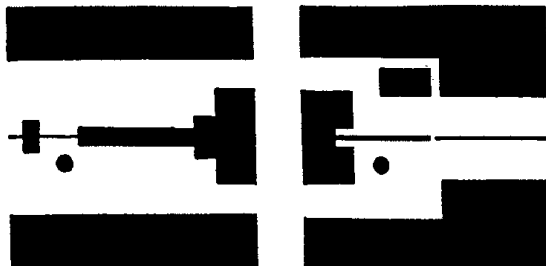
- C1 : 0.4 - 2.5pF Johanson Gigatrim
- C2, C3, : 0.6 - 4.5pF Johanson Gigatrim
- C4 : 0.6 - 4.5pF Johanson Gigatrim
- C5 : 82pF Chip Capacitor, .055 Sq.
- C6 : Pair of 820pF Chip Capacitors, .11 Sq.
- C7 : 1000µF Electrolytic

- L1 : Loop, #18 Tinned, .36 Wide x .27 Above Circuit
- L2 : 4 3/4 Turns, #24 Enameled, Close Wound, .075 I.D.

- Z1 : 50Ω (.02 Wide)
- Z2 : .250 x .120
- Z3 : 50Ω, .020 x .330; C1 Tapped .15 From Load
- Z4 : .145 x .920
- Z5 : .325 x .180
- Z6 : .730 x .315
- Z7 : .710 x .425 with .140 x .150 Cutout
- Z8 : .035 x .780; C4 Tapped .36 from Center
- Z9 : 50Ω (.02 Wide)

C1, C4 : Cold End Terminated Through Eyelet

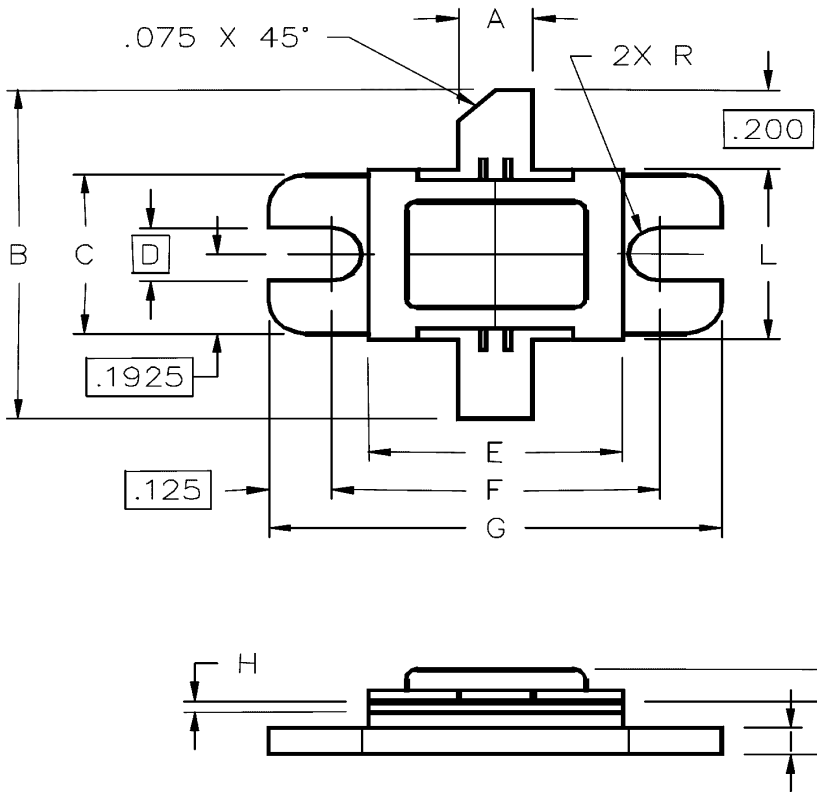
3M EPSILAM 10, .032 THK., 10Z.



MS2472

PACKAGE MECHANICAL DATA

PACKAGE STYLE M112



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.145/3,68	.155/3,93	I	.055/1,40	.065/1,65
B	.750/19,05		J	.115/2,92	.135/3,43
C	.380/9,65	.390/9,91	K		.230/5,64
D	.130/3,30		L	.395/10,03	.410/10,41
E	.495/12,57	.505/12,83			
F	.640/16,26	.655/16,64			
G	.890/22,61	.910/23,11			
H	.002/0,05	.006/0,15			