



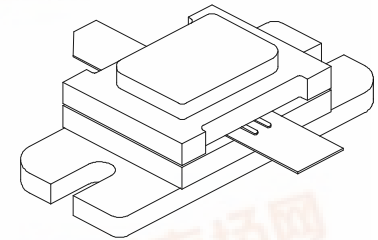
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MS2475

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

Features

- DESIGNED FOR HIGH POWER PULSED IFF
- 720 WATTS (min.) IFF 1030 or 1090 MHz
- REFRACTORY GOLD METALLIZATION
- 6.8 dB MIN. GAIN
- LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 30:1 LOAD VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION

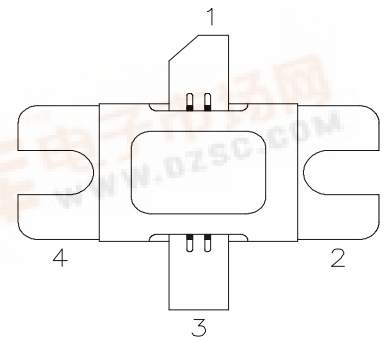


.400 x .500 2LFL (M112)
hermetically sealed

DESCRIPTION:

The MS2475 is a silicon NPN power transistor designed for IFF applications. The MS2475 is designed to exceed the high peak power requirements of today's IFF systems. Hermetic sealing, gold metalization and internal input matching provide superior long term reliability and broadband performance.

PIN CONNECTION



1. Collector 3. Emitter
2. Base 4. Base

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

Symbol	Parameter	Value	Unit
V _{CC}	Collector-Supply Voltage*	55	V
I _C	Device Current* (T _C ≤ 100°C)	45	A
P _{DISS}	Power Dissipation*	1670	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to + 200	°C

Thermal Data

R _{TH(j-c)}	Junction-Case Thermal Resistance*	0.06	°C/W
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* Applies only to rated RF operation.



ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	I _C = 25 mA I _E = 0 mA	65	----	----	V
BV_{CER}	I _C = 25 mA R _{BE} = 10 Ω	65	----	----	V
BV_{EBO}	I _E = 10 mA I _C = 0 mA	3.5	----	----	V
I_{CES}	V _{CE} = 50 V V _{BE} = 0 V	----	----	60	mA
h_{FE}	V _{CE} = 5 V I _C = 2 A	10	----	250	----

DYNAMIC

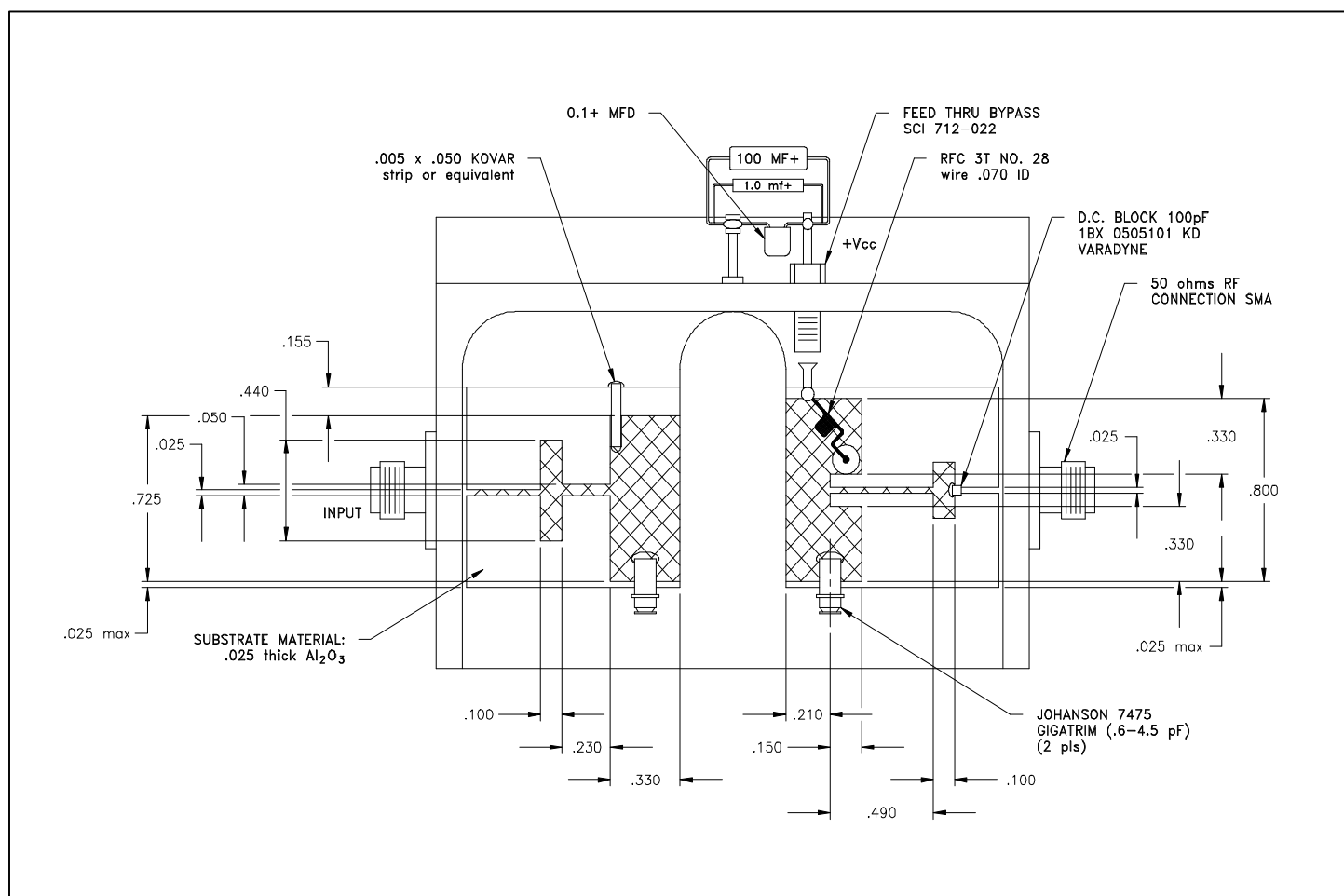
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	f = 1090 MHz P _{IN} = 150 W V _{CC} = 50 V	720	----	----	W
h_C	f = 1090 MHz P _{IN} = 150 W V _{CC} = 50 V	35	----	----	%
G_P	f = 1090 MHz P _{IN} = 150 W V _{CC} = 50 V	6.8	----	----	dB

Note: Pulse width = 10μSec. Duty Cycle = 1%

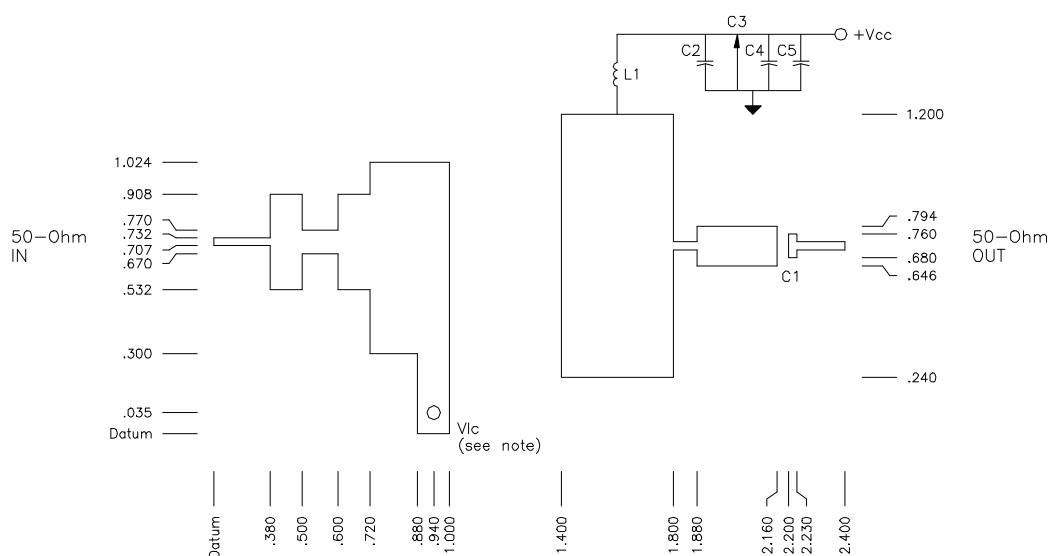
IMPEDANCE DATA:

FREQUENCY	Zin	Zcl
1030 MHz	4.18 + j1.32	0.81 + j0.55
1090 MHz	3.16 + j1.24	0.75 + j0.60

Test Circuit (1090 MHz)



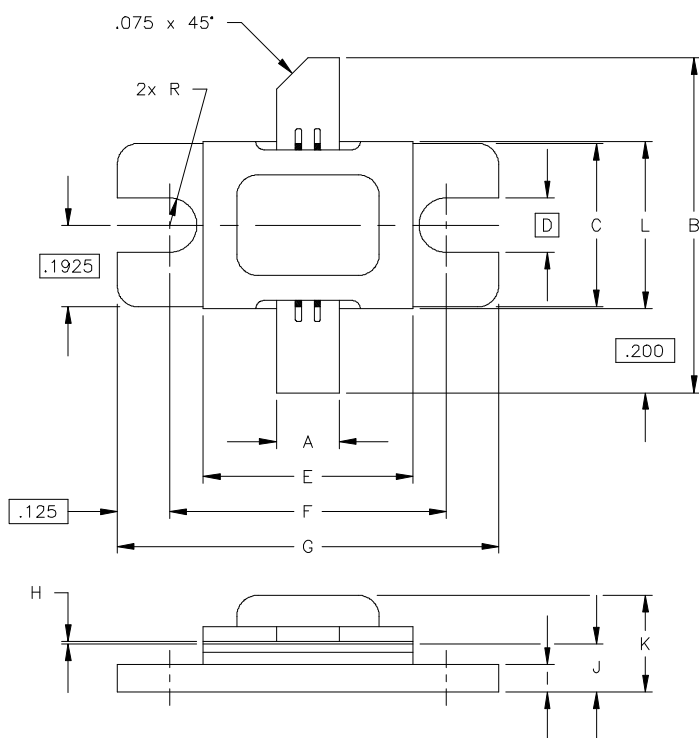
1030 MHz Typical Circuit



C1: DC block 100pF chip
 C2: 0.1 pF Monolithic
 C3: Feedthrough 1500pF
 C4: 1.0 uF Film 63V
 C5: 100uF Electrolytic 63V
 L1: 1/2 turn #18 wire .620 ID
 Substrate:
 RT Duroid 6010-2

Notes:
 1. Insert pin in via hole for emitter ground return.
 2. All dimensions are in inches.

PACKAGE MECHANICAL DATA



	Minimum Inches/mm	Maximum Inches/mm
A	.145/3,68	.155/3,93
B	.750/19,05	---
C	.380/9,65	.390/9,91
D	---	.130/3,30
E	.495/12,57	.507/12,88
F	.640/16,26	.655/16,64
G	.890/22,61	.910/23,11
H	.002/0,05	.006/0,15
I	.055/1,40	.065/1,65
J	.115/2,92	.135/3,43
K	---	.230/5,84
L	.395/10,03	.407/10,34