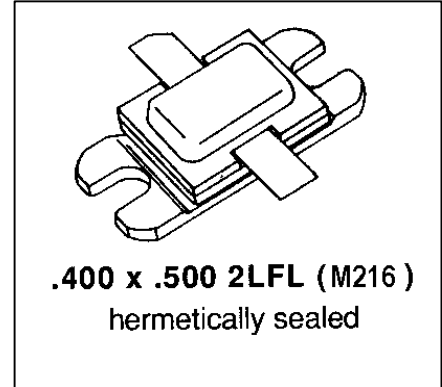


MSC1450M

RF AND MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

Features

- REFRACTORY/GOLD METALLIZATION
- LOW THERMAL RESISTANCE
- RUGGEDIZED VSWR 25:1
- INTERNAL INPUT / OUTPUT MATCHING
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 450 \text{ W}$ MINIMUM
- 7 dB gain

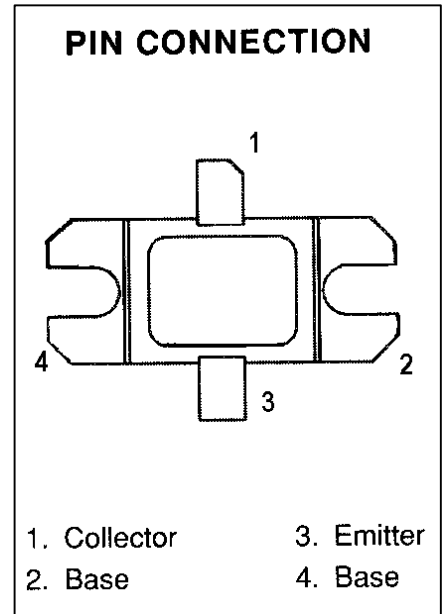


DESCRIPTION:

The MSC1450M is a high-power pulsed transistor specifically designed for IFF avionics applications.

This device is capable of withstanding a minimum 25:1 load mismatch at any phase angle under full rated conditions.

The MSC1450M is housed in the unique BIGPAC™ package with internal input/output matching structures.



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

Symbol	Parameter	Value	Unit
V_{CC}	Collector-Supply Voltage	55	V
I_C	Device Current	28	A
P_{DISS}	Power Dissipation	910	W
T_J	Junction Temperature	250	°C
T_{STG}	Storage Temperature	- 65 to + 200	°C

Thermal Data

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	0.15	°C/W
---------------	----------------------------------	------	------

MSC1450M
ELECTRICAL SPECIFICATIONS (Tcase = 25°C)
STATIC

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
BV_{CBO}	I_C = 15 mA I_E = 0 mA	65			V
BV_{EBO}	I_E = 1 mA I_C = 0 mA	3.5			V
BV_{CER}	I_C = 50 mA R_{BE} = 10Ω	65			V
I_{CES}	V_{CE} = 50V			35	mA
h_{FE}	V_{CE} = 5 V I_C = 1 A	15		120	

DYNAMIC

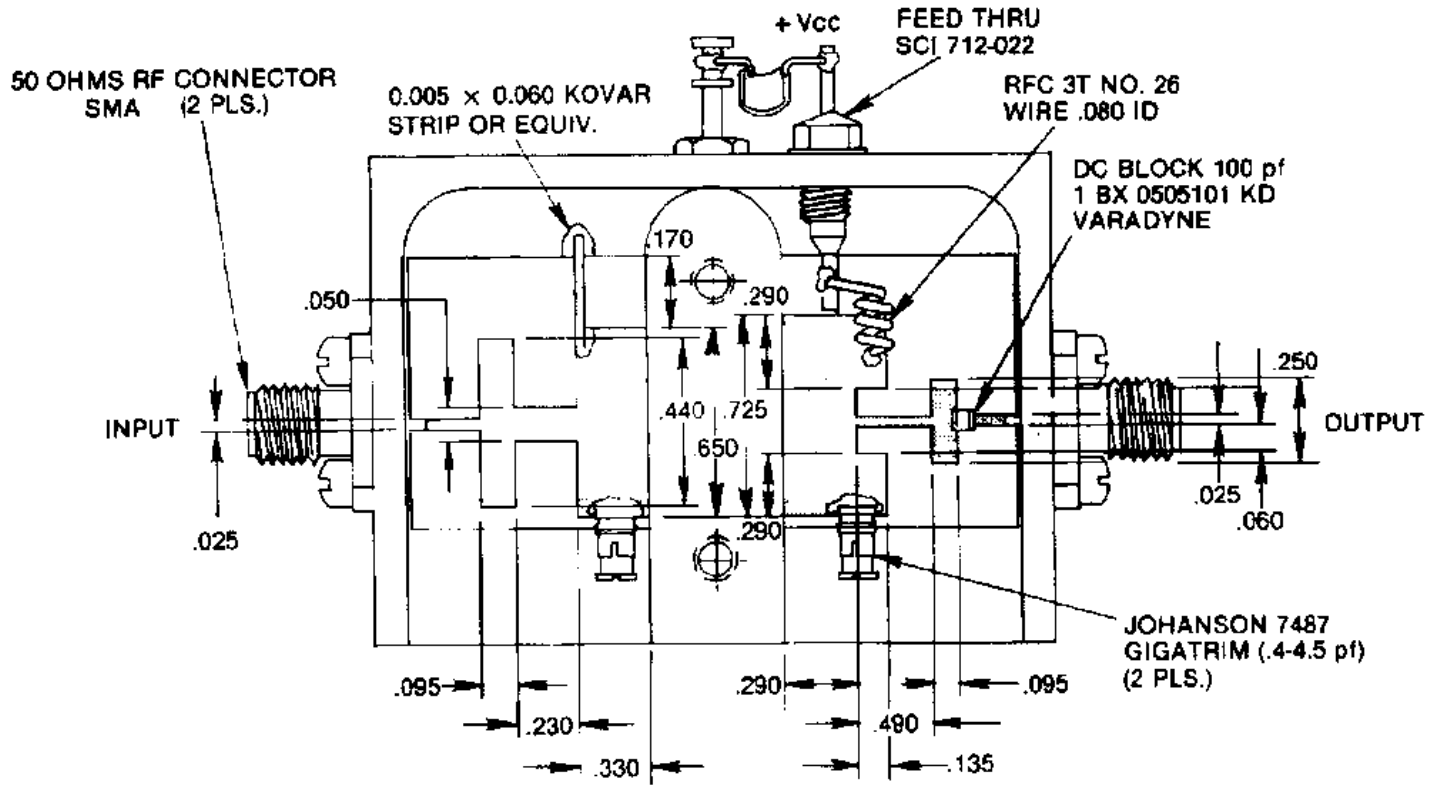
Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
P_{OUT}	f = 1090 MHz P_{IN} = 90 W V_{CC} = 50 V	450	500		W
ζ_C	f = 1090 MHz P_{IN} = 90 W V_{CC} = 50 V	40			%
G_P	f = 1090 MHz P_{IN} = 90 W V_{CC} = 50 V	7			dB

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

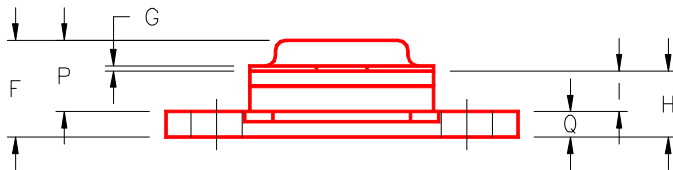
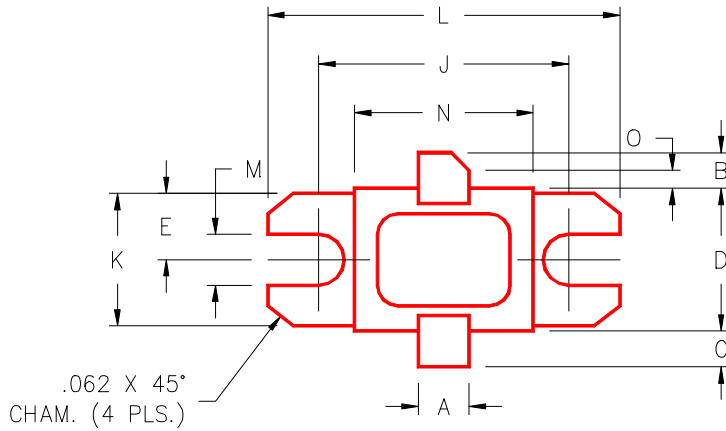
MSC1450M

TEST CIRCUIT

Ref.: Dwg. No. C125363



All dimensions are in inches.

PACKAGE MECHANICAL DATA
PACKAGE STYLE M216


	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.140/3,56		J	.700/17,78	
B	.110/2,80		K	.386/9,80	
C	.110/2,80		L	.900/22,86	
D	.395/10,03	.407/10,34	M	.120/3,05	
E	.193/4,90		N	.500/12,70	
F		.230/5,84	O	.050/1,27	
G	.003/0,08	.006/0,15	P		.170/4,32
H	.118/3,00	.131/3,33	Q	.062/1,58	
I	.063/1,60				