ADVANCED POWER TECHNOLOGY RF®

140 COMMERCE DRIVE
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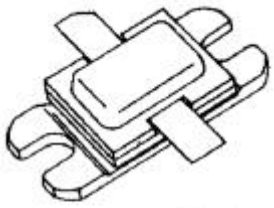
MSC1400M

RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS

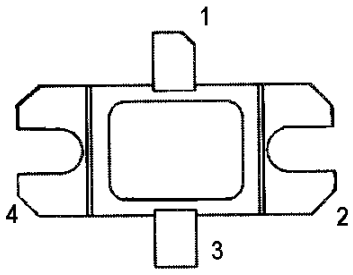


.400 x .500 2LFL (M216)
hermetically sealed

Features

- 1025-1150 MHz
- 25:1 VSWR CAPABILITY
- P_{OUT} = 400 WATTS
- G_P = 6.5 dB MINIMUM
- GOLD METALLIZATION
- INPUT/OUTPUT MATCHING
- COMMON BASE CONFIGURATION

PIN CONNECTION



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

DESCRIPTION:

The MSC1400M is a high power pulsed transistor specifically designed for IFF avionics applications. It is designed for operation under short pulse width and low duty cycle pulse conditions and is capable of withstanding a minimum 25:1 load mismatch at rated RF conditions. Internal impedance matching and gold metallization ensure high product reliability and consistency.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation	1000	W
I_C	Device Current	28	A
V_{CC}	Collector - Base Voltage	55	V
T_J	Junction Temperature	+250	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	0.12	°C/W

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

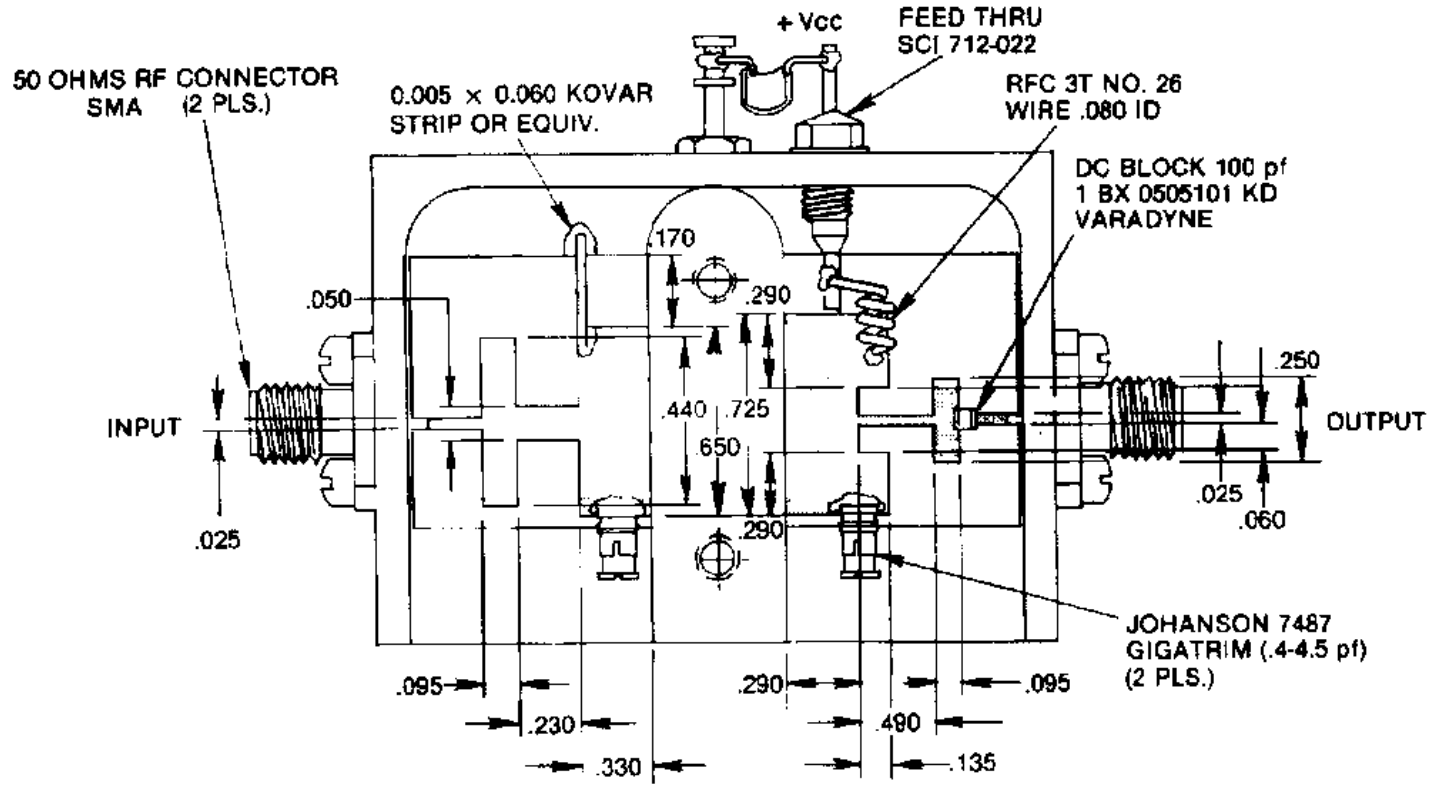
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 15mA	I_E = 0mA	65	---	---	V
BV_{EBO}	I_E = 1mA	I_C = 0mA	3.5	---	---	V
BV_{CER}	I_C = 50mA	R_{BE} = 10Ω	65	---	---	V
I_{CES}	V_{CB} = 50V		---	---	35	mA
HFE	V_{CE} = 5V	I_C = 1A	15	---	120	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 1025-1150 MHz	P_{IN} = 90 W	V_{CC} = 50 V	400	450	---	W
η_C	f = 1025-1150 MHz	P_{IN} = 90 W	V_{CC} = 50 V	40	---	---	%
G_P	f = 1025-1150 MHz	P_{IN} = 90 W	V_{CC} = 50 V	6.5	---	---	dB
Conditions	Pulse Width = 10μS	Duty Cycle = 1%					

TEST CIRCUIT

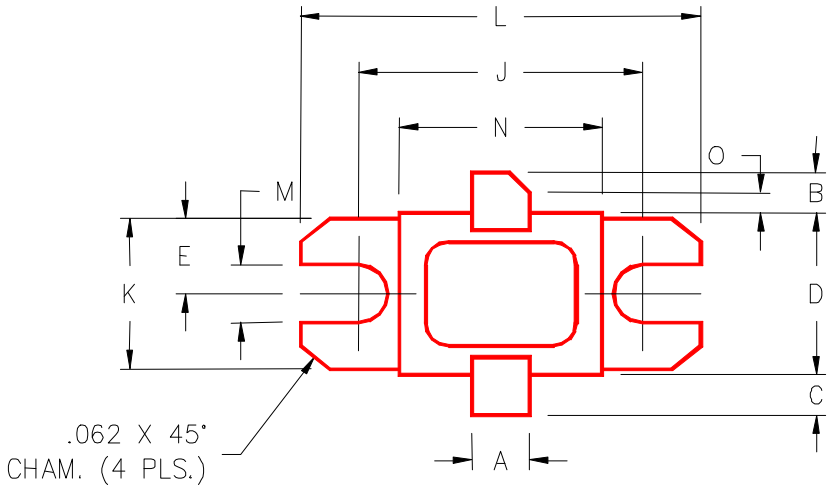
Ref.: Dwg. No. C125363

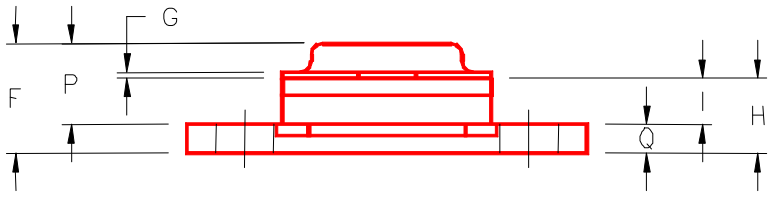


All dimensions are in inches.

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				