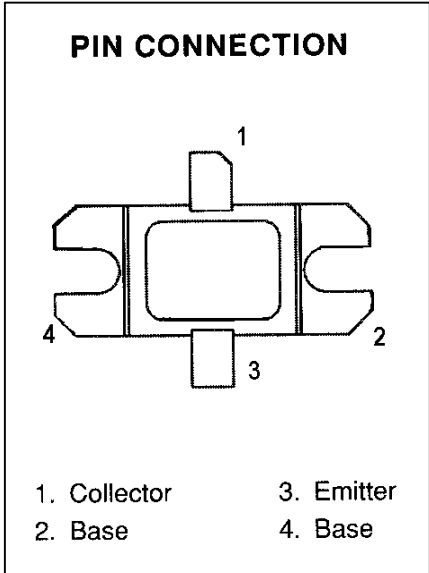
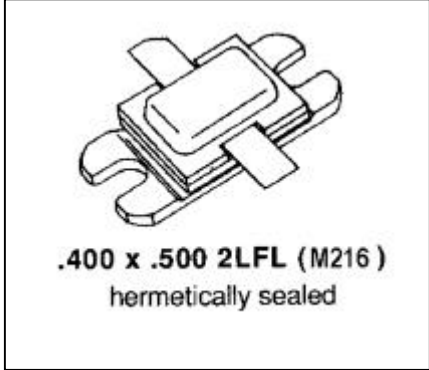


# MSC1550M

## RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS0

### Features

- 1025-1150 MHz
- 25:1 VSWR CAPABILITY
- P<sub>OUT</sub> = 550 WATTS
- G<sub>p</sub> = 5.6 dB MINIMUM
- GOLD METALLIZATION
- INPUT/OUTPUT MATCHING
- COMMON BASE CONFIGURATION



### DESCRIPTION:

The MSC1550M 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 (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation* (T <sub>c</sub> ≤ 80°C)	1350	W
I <sub>c</sub>	Device Current*	40	A
V <sub>CC</sub>	Collector - Base Voltage*	55	V
T <sub>J</sub>	Junction Temperature	+250	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C

### Thermal Data

R <sub>TH(J-C)</sub>	Junction-case Thermal Resistance*	0.09	°C/W
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\*Applies only to rated RF amplifier operation

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>BV<sub>CBO</sub></b>	<b>I<sub>C</sub> = 25mA      I<sub>E</sub> = 0mA</b>	<b>65</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 5mA      I<sub>C</sub> = 0mA</b>	<b>3.5</b>	---	---	<b>V</b>
<b>BV<sub>CER</sub></b>	<b>I<sub>C</sub> = 50mA      R<sub>BE</sub> = 10Ω</b>	<b>65</b>	---	---	<b>V</b>
<b>I<sub>CES</sub></b>	<b>V<sub>CB</sub> = 50V</b>	---	---	<b>60</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5V      I<sub>C</sub> = 2A</b>	<b>10</b>	---	<b>250</b>	---

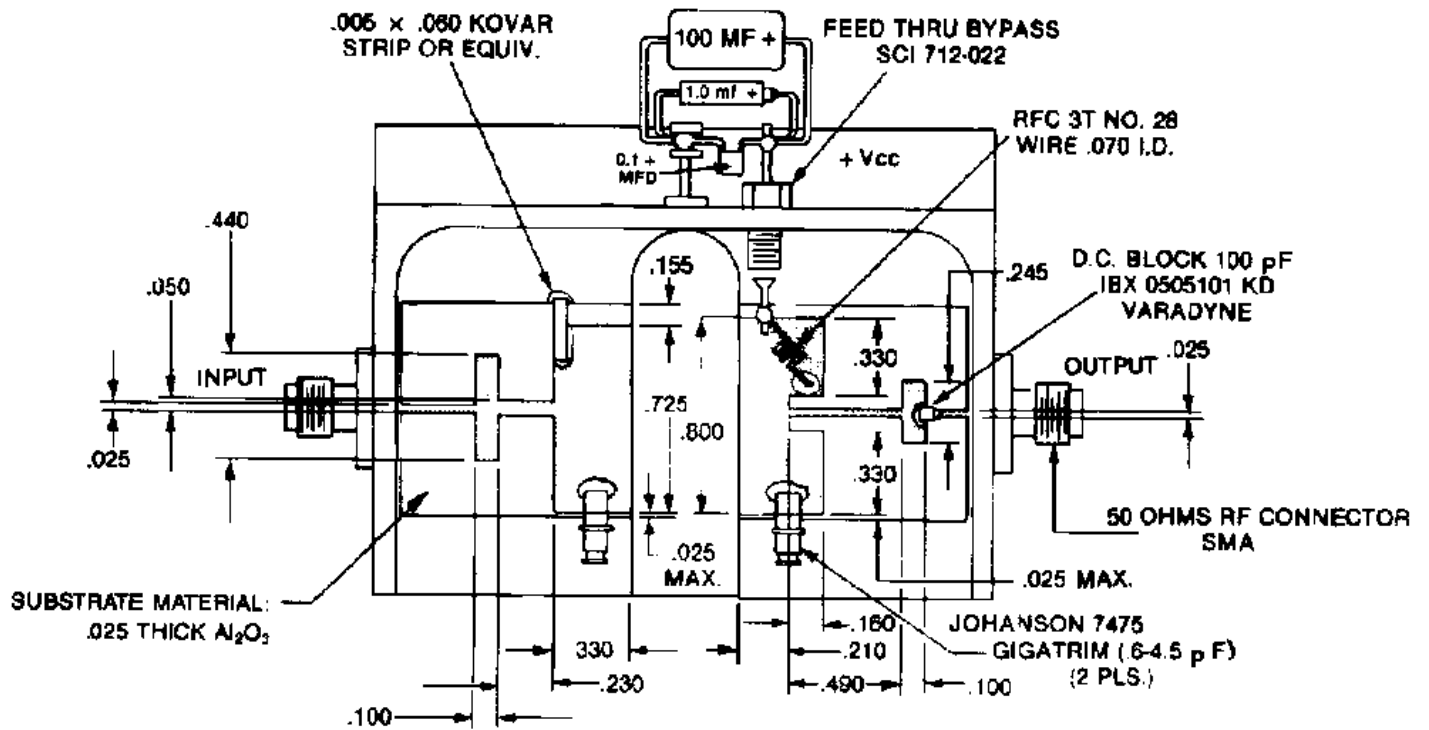
### DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 1025-1150 MHz    P<sub>IN</sub> = 150 W    V<sub>CC</sub> = 50 V</b>	<b>550</b>	<b>600</b>	---	<b>W</b>
<b>η<sub>C</sub></b>	<b>f = 1025-1150 MHz    P<sub>IN</sub> = 150 W    V<sub>CC</sub> = 50 V</b>	<b>35</b>	<b>38</b>	---	<b>%</b>
<b>G<sub>P</sub></b>	<b>f = 1025-1150 MHz    P<sub>IN</sub> = 150 W    V<sub>CC</sub> = 50 V</b>	<b>5.6</b>	---	---	<b>dB</b>
<b>Conditions</b>	<b>Pulse Width = 10μS    Duty Cycle = 1%</b>				

**MSC1550M**

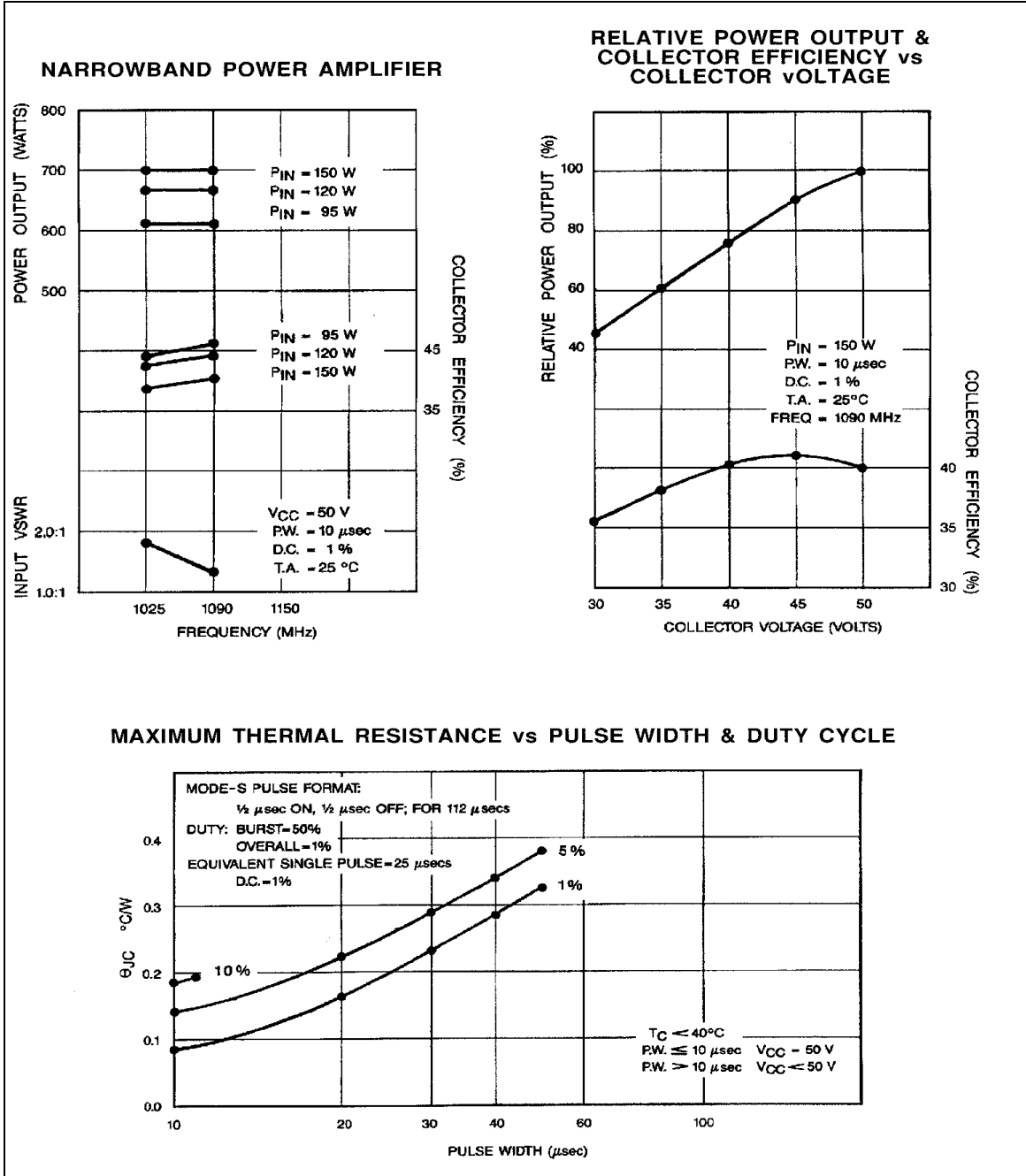
**TEST CIRCUIT**

Ref.: Dwg. No. C125410A

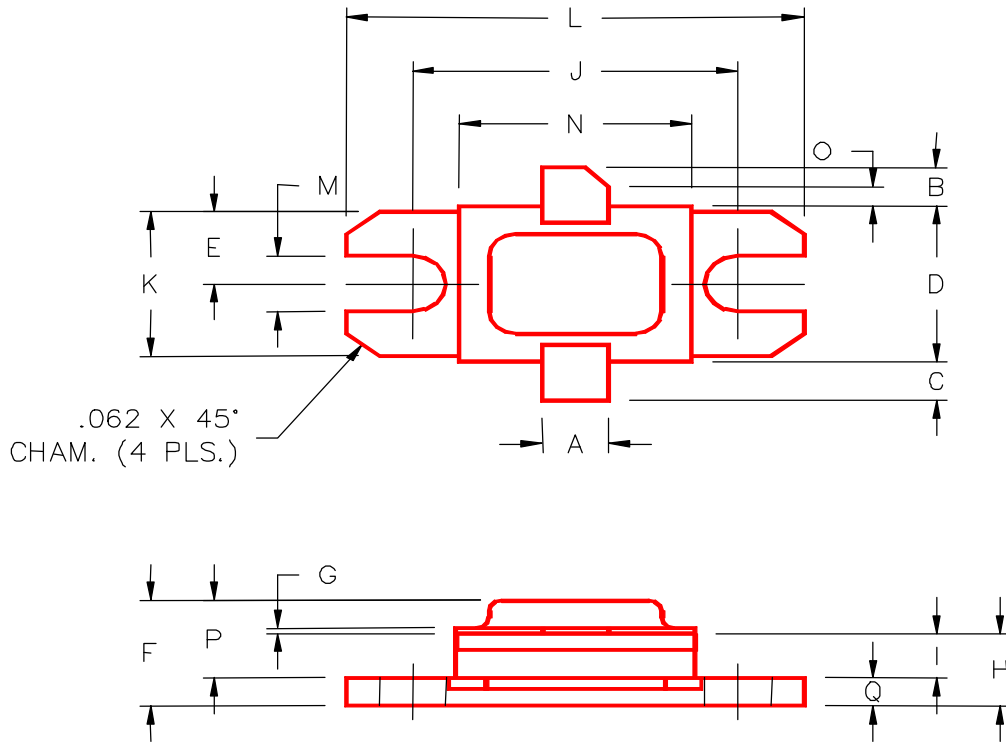


All dimensions are in inches.

**TYPICAL PERFORMANCE**



**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				