



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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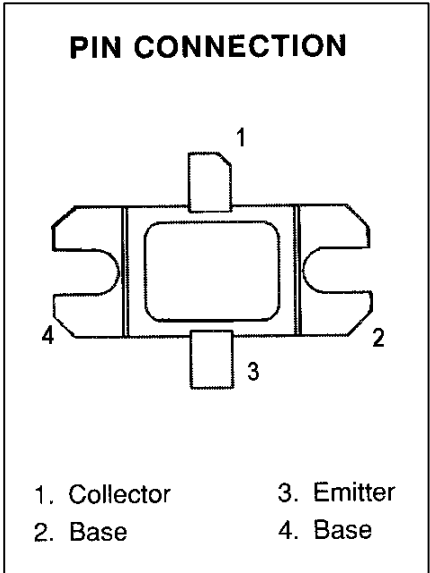
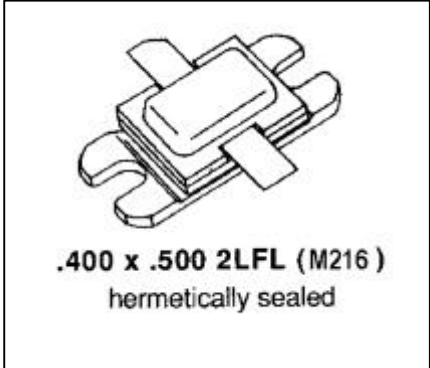


MSC1400M

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

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



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 (T_{case} = 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 |
|----------------------|----------------------------------|------|------|

MSC1400M
ELECTRICAL SPECIFICATIONS (T_{case} = 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 | --- |

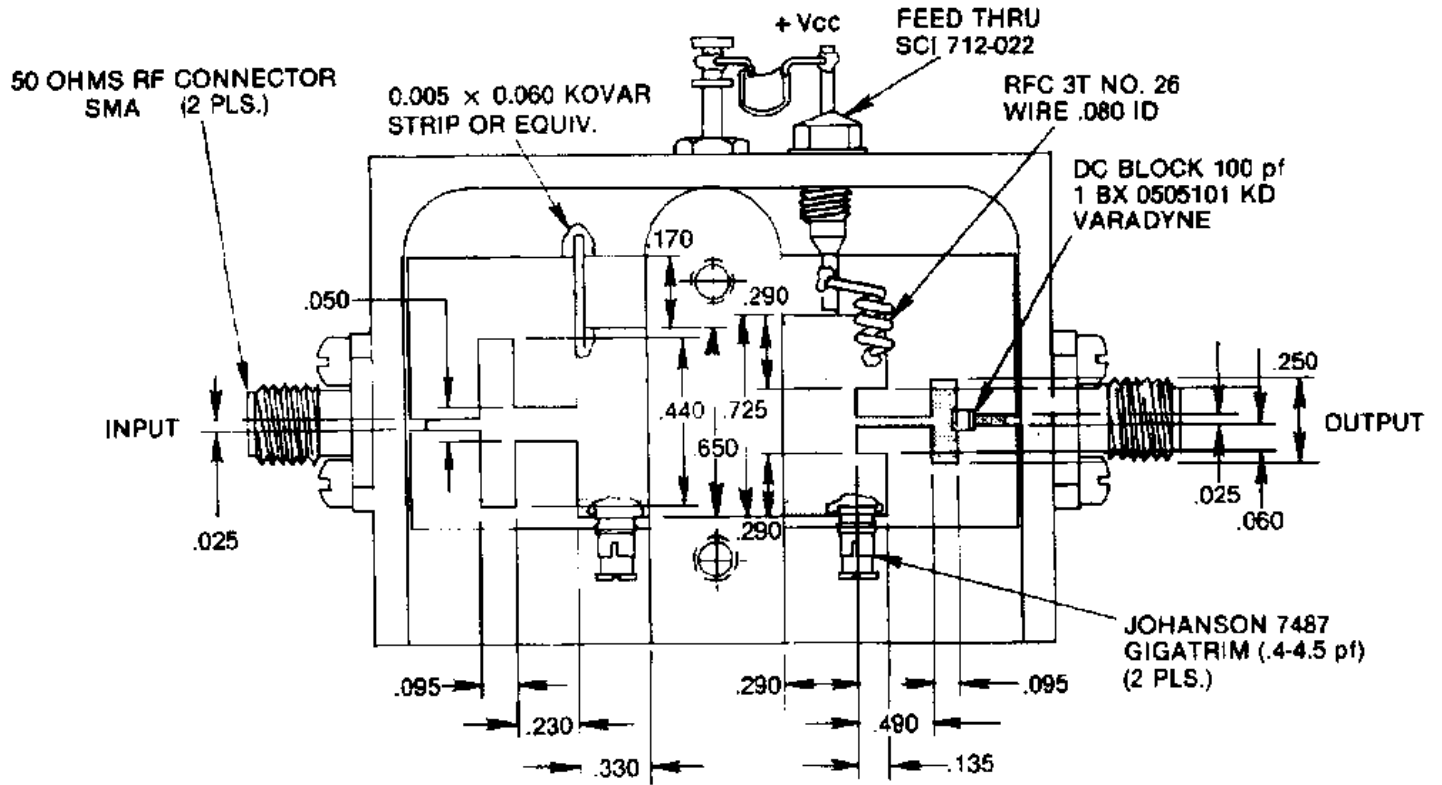
DYNAMIC

| 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% | | | | |

MSC1400M

TEST CIRCUIT

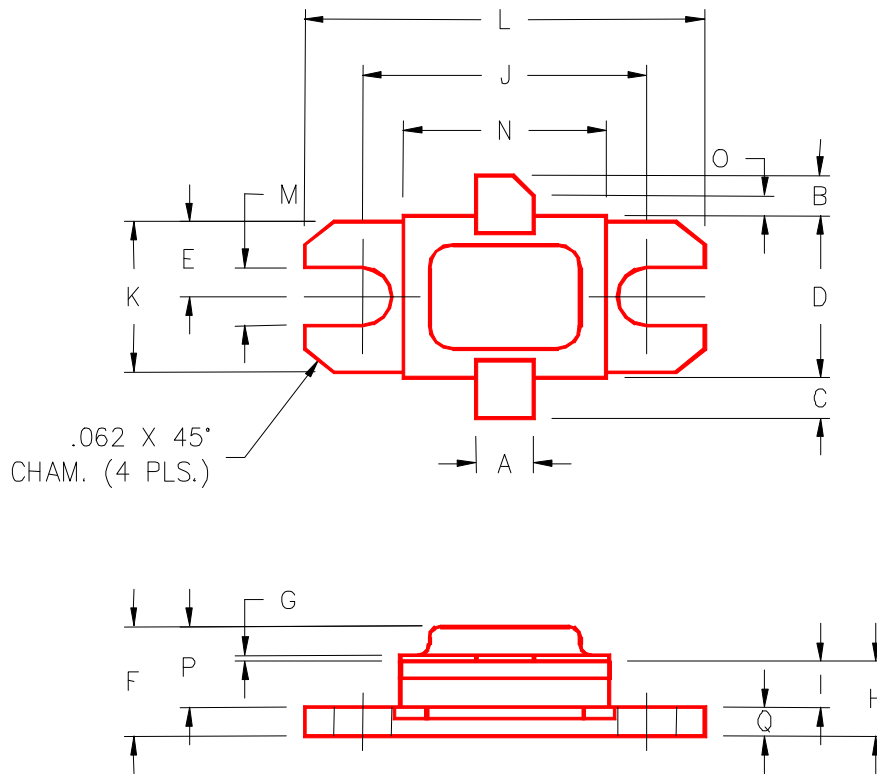
Ref.: Dwg. No. C125363



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 | | | | |