



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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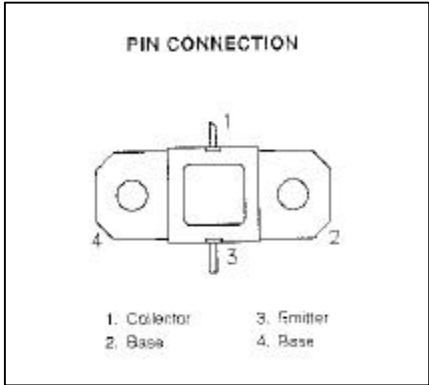


MSC1175M

**RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS**

Features

- 1025 – 1150 MHz
- 50 VOLTS
- INTERNAL INPUT/OUTPUT MATCHING
- P_{OUT} = 175 WATTS
- G_p = 7.7 dB MINIMUM
- COMMON BASE CONFIGURATION



DESCRIPTION:

The MSC1175M is a NPN bipolar transistor specifically designed for high peak pulse power applications such as DME/TACAN. This device is capable of withstanding a minimum 20:1 load VSWR at any phase angle under full rated conditions. Internal impedance matching provides consistent broadband performance.

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

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation	400	W
I _C	Device Current	12	A
V _{CC}	Collector-Supply Voltage*	55	V
T _J	Junction Temperature	250	°C
T _{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

R _{TH(J-C)}	Thermal Resistance Junction-case	0.3	°C/W
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MSC1175M
ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
BV_{CBO}	I_C = 10 mA	I_E = 0 mA	65	---	---	V	
BV_{EBO}	I_E = 1 mA	I_C = 0 mA	3.5	---	---	V	
BV_{CER}	I_C = 15 mA	R_{BE} = 10 Ω	65	---	---	V	
I_{CES}	V_{CE} = 50 V			---	---	12.5	mA
h_{FE}	V_{CE} = 5 V	I_C = 1 A	15	---	120	---	

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 1025 - 1150 MHz	P_{IN} = 30 W	V_{CC} = 50 V	175	190	---	W
η_C	f = 1025 - 1150 MHz	P_{IN} = 30 W	V_{CC} = 50 V	40	42	---	%
G_P	f = 1025 - 1150 MHz	P_{IN} = 30 W	V_{CC} = 50 V	7.7	8.0	---	dB
Conditions	Pulse Width = 10μS Duty Cycle = 1%						

MSC1175M

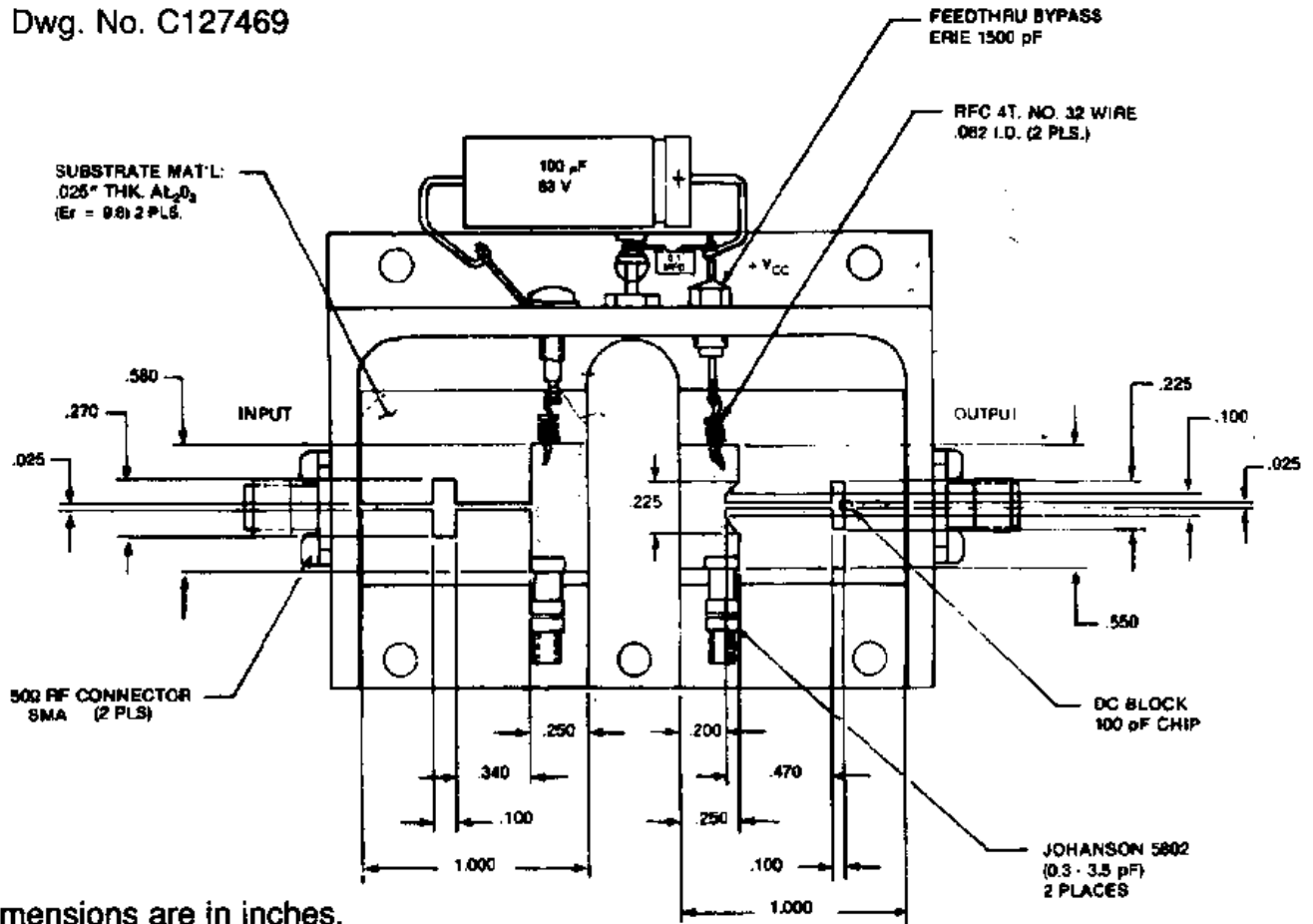
IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
1025 MHz	2.3 + j5.1	2.4 - j4.2
1090 MHz	2.0 + j4.5	2.0 - j3.5
1150 MHz	2.2 + j3.3	2.5 - j2.5

V_{CC} = 50V
P_{IN} = 30W
Normalized to 50Ω

TEST CIRCUIT

Ref.: Dwg. No. C127469



All dimensions are in inches.

PACKAGE MECHANICAL DATA

