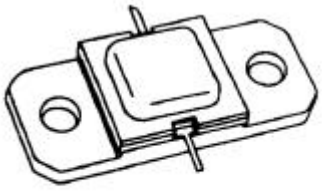
ADVANCED POWER TECHNOLOGY RF®

140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
18936-1013
PHONE: (215) 631-9840
FAX: (215) 631-9855

MSC1175M

RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS

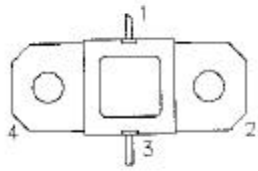


.400 x .400 2NLFL (M218)
hermetically sealed

Features

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

PIN CONNECTION



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

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 (Tcase = 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

Advanced Power Technology reserves the right to change, without notice, the specifications and information contained herein
Visit our website at **WWW.ADVANCEDPOWER.COM** or contact our factory direct.

ELECTRICAL SPECIFICATIONS (Tcase = 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%					

Advanced Power Technology reserves the right to change, without notice, the specifications and information contained herein
Visit our website at **WWW.ADVANCEDPOWER.COM** or contact our factory direct.

ADVANCED POWER TECHNOLOGY RF®

MSC1175M

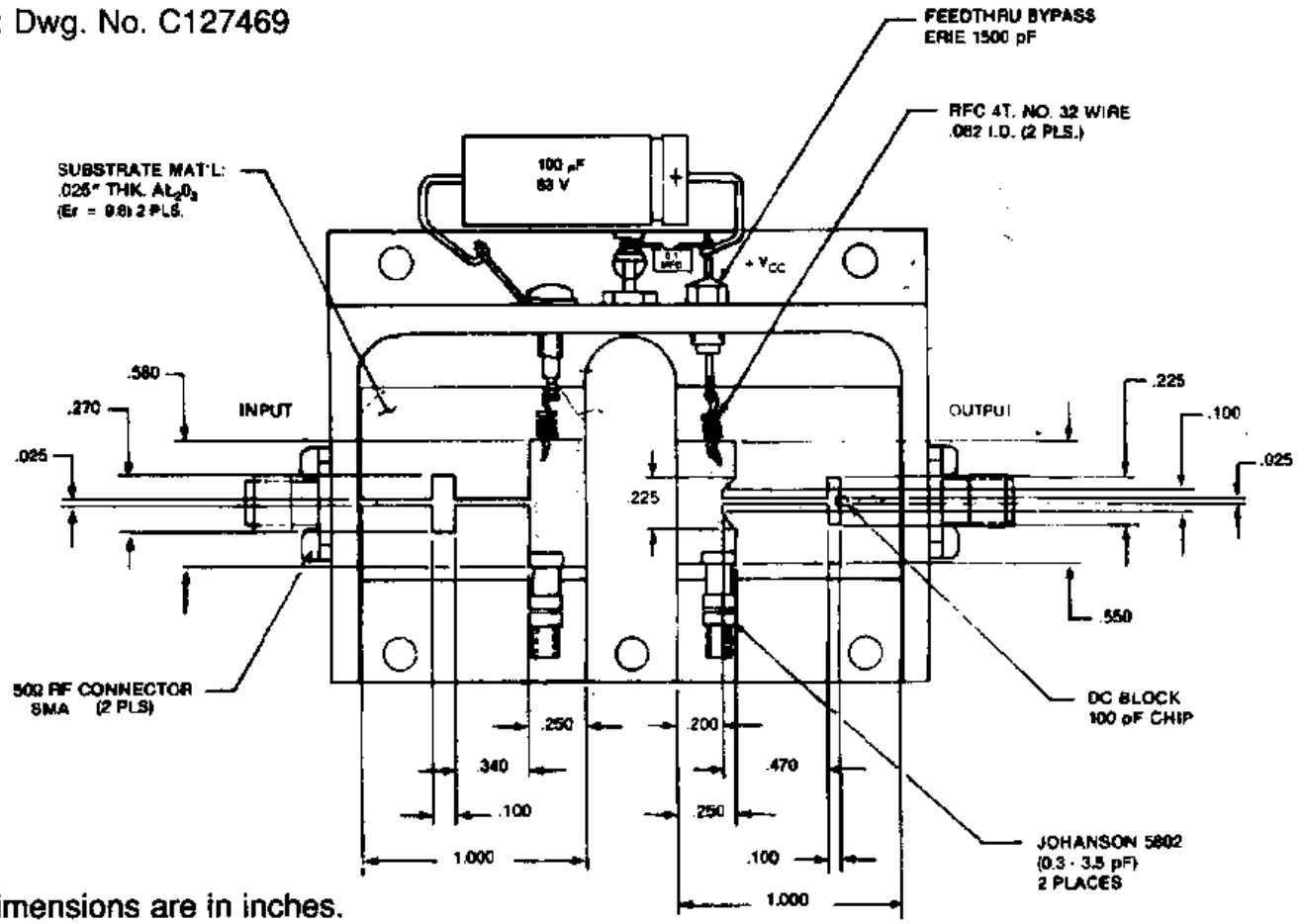
IMPEDANCE DATA

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.

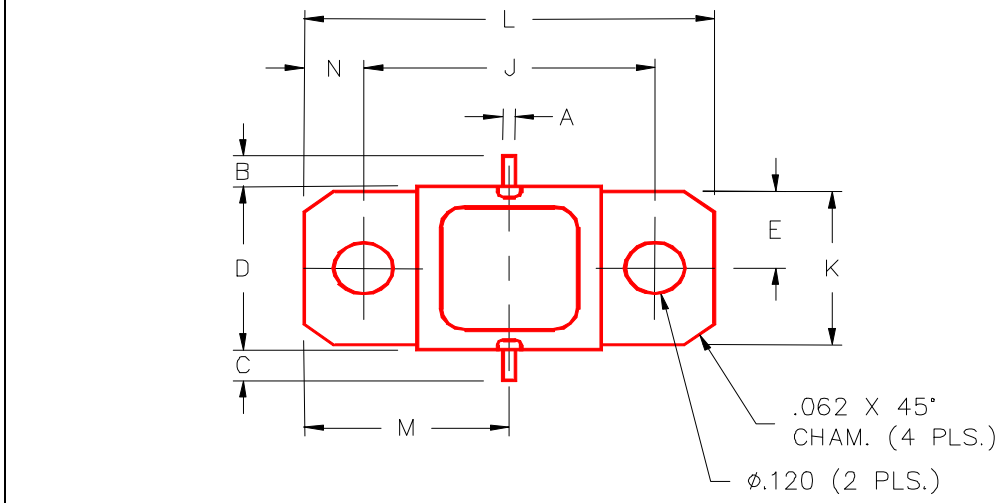
Advanced Power Technology reserves the right to change, without notice, the specifications and information contained herein
Visit our website at **WWW.ADVANCEDPOWER.COM** or contact our factory direct.

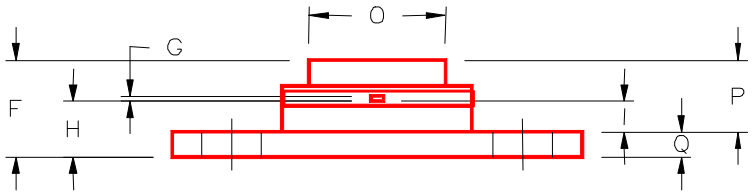
ADVANCED POWER TECHNOLOGY RF®

MSC1175M

PACKAGE MECHANICAL DATA

PACKAGE STYLE M218





	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.025/0,64		J	.650/16,51	
B	.100/2,54		K	.386/9,80	
C	.100/2,54		L	.900/22.86	
D	.395/10,03	.407/10,34	M	.450/11,43	
E	.193/4,90		N	.125/3,18	
F		.230/5,84	O	.405/10,29	
G	.004/0,10	.007/0,18	P		.170/4,32
H	.118/3,00	.131/3,33	Q	.062/1,58	
I	.063/1,60				

Advanced Power Technology reserves the right to change, without notice, the specifications and information contained herein
Visit our website at **WWW.ADVANCEDPOWER.COM** or contact our factory direct.