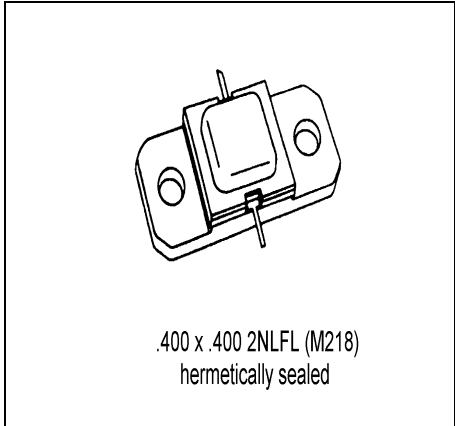


MSC1350M

**RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS**

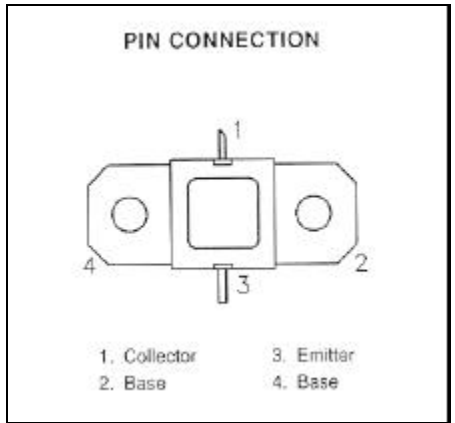
Features

- 1090 MHz
- COMMON BASE
- GOLD METALLIZATION
- CLASS C OPERATION
- POUT = 350 W MIN. WITH 7.0 dB GAIN
- WITHSTANDS 20:1 VSWR UNDER FULL LOAD



DESCRIPTION:

THE MSC1350M IS A SILICON NPN BIPOLAR DEVICE SPECIFICALLY DESIGNED FOR IFF AVIONICS APPLICATIONS. GOLD METALLIZATION AND EMITTER BALLASTING ASSURE HIGH RELIABILITY UNDER CLASS A LINEAR AMPLIFIER OPERATION. THE DEVICE IS CAPABLE OF WITHSTANDING A 20:1 VSWR AT ALL PHASE ANGLES UNDER FULL LOAD CONDITIONS.



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

Symbol	Parameter	Value	Unit
V _{CC}	Collector-Supply Voltage*	55	V
I _C	Device Current*	19.8	A
P _{DISS}	Power Dissipation*	720	W
T _J	Junction Temperature	200	°C
T _{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

R _{TH(J-C)}	Thermal Resistance Junction-case*	0.2	°C/W
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MSC1350M

*Applies only to rated RF Amplifier Operation

ELECTRICAL SPECIFICATIONS (T_{case} = 25 °C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 10mA	I _E = 0mA	65	---	---	V
BV _{EBO}	I _E = 1mA	I _C = 0mA	3.5	---	---	V
BV _{CER}	I _C = 25mA	R _{BE} = 10Ω	65	---	---	V
I _{CES}	V _{CE} = 50 V		---	---	25	mA
h _{FE}	V _{CE} = 5 V	I _C = 1A	15	---	120	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 1090 MHz	P _{IN} = 70W	V _{CC} = 50V	350	360	---	W
η _C	f = 1090 MHz	P _{IN} = 70W	V _{CC} = 50V	40	44	---	%
G _p	f = 1090 MHz	P _{IN} = 70W	V _{CC} = 50V	7.0	7.1	---	dB
Condition	Pulse Width = 10uS Duty Cycle = 1%						

IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
1025 MHz	5.0 + j5.0	7.0 - j2.5
1090 MHz	7.0 + j2.5	7.5 - j2.8
1150 MHz	3.6 + j2.5	6.8 - j2.7

V_{CC} = 50V
P_{IN} = 70W

PACKAGE MECHANICAL DATA

