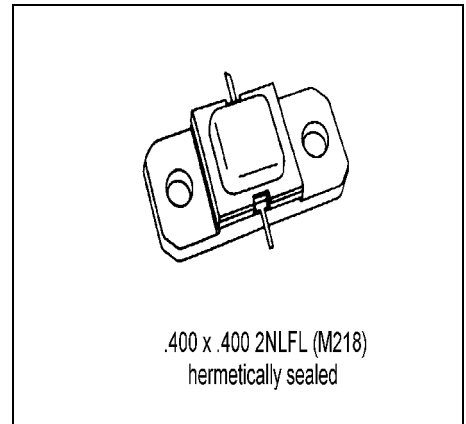
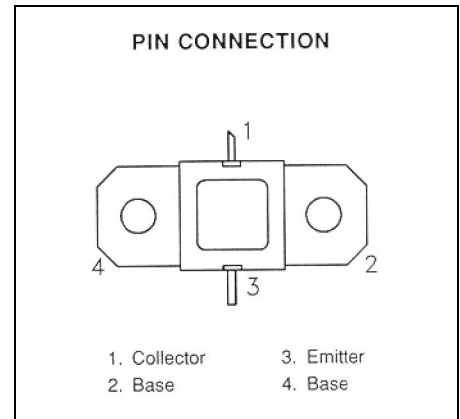


**RF & MICROWAVE TRANSISTORS  
 AVIONICS APPLICATIONS**
**Features**

- 1025 – 1150 MHz
- 50 VOLTS
- INPUT/OUTPUT MATCHING
- $P_{OUT} = 250$  WATTS
- $G_P = 6.2$  dB MINIMUM
- COMMON BASE CONFIGURATION


**DESCRIPTION:**

The MS2554 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<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
$P_{DISS}$	Power Dissipation	600	W
$I_C$	Device Current	17.8	A
$V_{CC}$	Collector-Supply Voltage*	55	V
$T_J$	Junction Temperature	200	°C
$T_{STG}$	Storage Temperature	-65 to +200	°C

**Thermal Data**

$R_{TH(J-C)}$	Thermal Resistance Junction-case	0.20	°C/W
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**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> = 15 mA</b>	<b>I<sub>E</sub> = 0 mA</b>	<b>65</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1 mA</b>	<b>I<sub>C</sub> = 0 mA</b>	<b>3.5</b>	---	---	<b>V</b>
<b>BV<sub>CER</sub></b>	<b>I<sub>C</sub> = 50 mA</b>	<b>R<sub>BE</sub> = 10 Ω</b>	<b>65</b>	---	---	<b>V</b>
<b>I<sub>CES</sub></b>	<b>V<sub>CE</sub> = 50 V</b>		---	---	<b>25</b>	<b>mA</b>
<b>HFE</b>	<b>V<sub>CE</sub> = 5 V</b>	<b>I<sub>C</sub> = 1 A</b>	<b>15</b>	---	<b>120</b>	---

**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 1025 - 1150 MHz</b>	<b>P<sub>IN</sub> = 90 W</b>	<b>V<sub>CC</sub> = 50 V</b>	<b>250</b>	---	---	<b>W</b>
<b>η<sub>C</sub></b>	<b>f = 1025 - 1150 MHz</b>	<b>P<sub>IN</sub> = 90 W</b>	<b>V<sub>CC</sub> = 50 V</b>	<b>40</b>	---	---	<b>%</b>
<b>G<sub>p</sub></b>	<b>f = 1025 - 1150 MHz</b>	<b>P<sub>IN</sub> = 90 W</b>	<b>V<sub>CC</sub> = 50 V</b>	<b>6.2</b>	---	---	<b>dB</b>
<b>Condition</b>	<b>Pulse Width = 10uS    Duty Cycle = 1%</b>						

**IMPEDANCE DATA**

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
<b>1025 MHz</b>	<b>4.2 + j6.7</b>	<b>2.0 - j7.5</b>
<b>1090 MHz</b>	<b>4.0 + j3.5</b>	<b>2.5 - j7.5</b>
<b>1150 MHz</b>	<b>2.3 + j2.3</b>	<b>2.5 - j8.5</b>

**V<sub>CC</sub> = 50V**
**P<sub>IN</sub> = 60W**

PACKAGE MECHANICAL DATA

