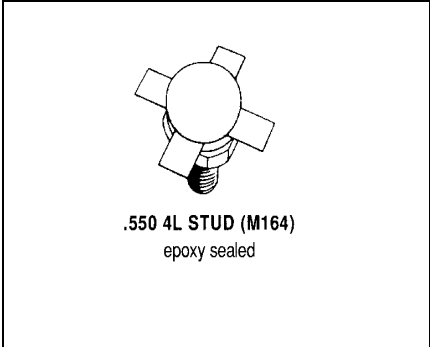


**MS1280**

**RF & MICROWAVE TRANSISTORS  
TV/LINEAR APPLICATIONS**

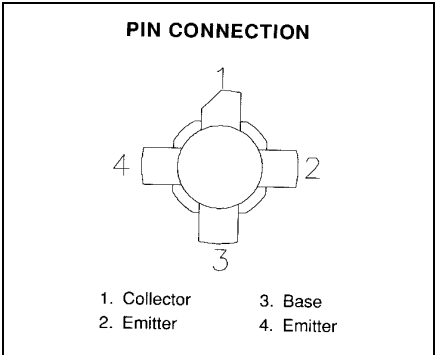
**Features**

- 170-230 MHz
- 28 VOLTS
- IMD = -53 dBc
- P<sub>OUT</sub> = 20 WATTS
- G<sub>P</sub> = 7.5 dB MINIMUM
- COMMON EMITTER CONFIGURATION



**DESCRIPTION:**

The MS1280 is a gold metallized epitaxial silicon NPN transistor designed for high linearity class AB operation. Internal impedance matching and an emitter ballasted die geometry make this device ideally suited for VHF and Band III television transmitter and transposers.



**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	30	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Device Current	16	A
P <sub>DISS</sub>	Power Dissipation	150	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C

**Thermal Data**

R <sub>TH(J-C)</sub>	Thermal Resistance Junction-case	1.2	°C/W
----------------------	----------------------------------	-----	------

## 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> = 100mA</b>	<b>I<sub>E</sub> = 0mA</b>	<b>60</b>	---	---	<b>V</b>
<b>BV<sub>CER</sub></b>	<b>I<sub>C</sub> = 100mA</b>	<b>R<sub>BE</sub> = 10Ω</b>	<b>60</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 100mA</b>	<b>I<sub>B</sub> = 0mA</b>	<b>30</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 20mA</b>	<b>I<sub>C</sub> = 0mA</b>	<b>4.0</b>	---	---	<b>V</b>
<b>HFE</b>	<b>V<sub>CE</sub> = 5V</b>	<b>I<sub>C</sub> = 1A</b>	<b>10</b>	---	<b>120</b>	---

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 225 MHz</b>	<b>V<sub>CE</sub> = 28W</b>	<b>I<sub>C</sub> = 3.5 mA</b>	<b>20</b>	---	---	<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 225 MHz</b>	<b>V<sub>CE</sub> = 28W</b>	<b>I<sub>C</sub> = 3.5 mA</b>	<b>7.5</b>	---	<b>8.0</b>	<b>dB</b>
<b>IMD</b>	<b>f = 225 MHz</b>	<b>V<sub>CE</sub> = 28W</b>	<b>I<sub>C</sub> = 3.5 mA</b>	---	<b>-53</b>	---	<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b>	<b>V<sub>CB</sub> = 30V</b>		---	---	<b>150</b>	<b>pf</b>

### IMPEDANCE DATA

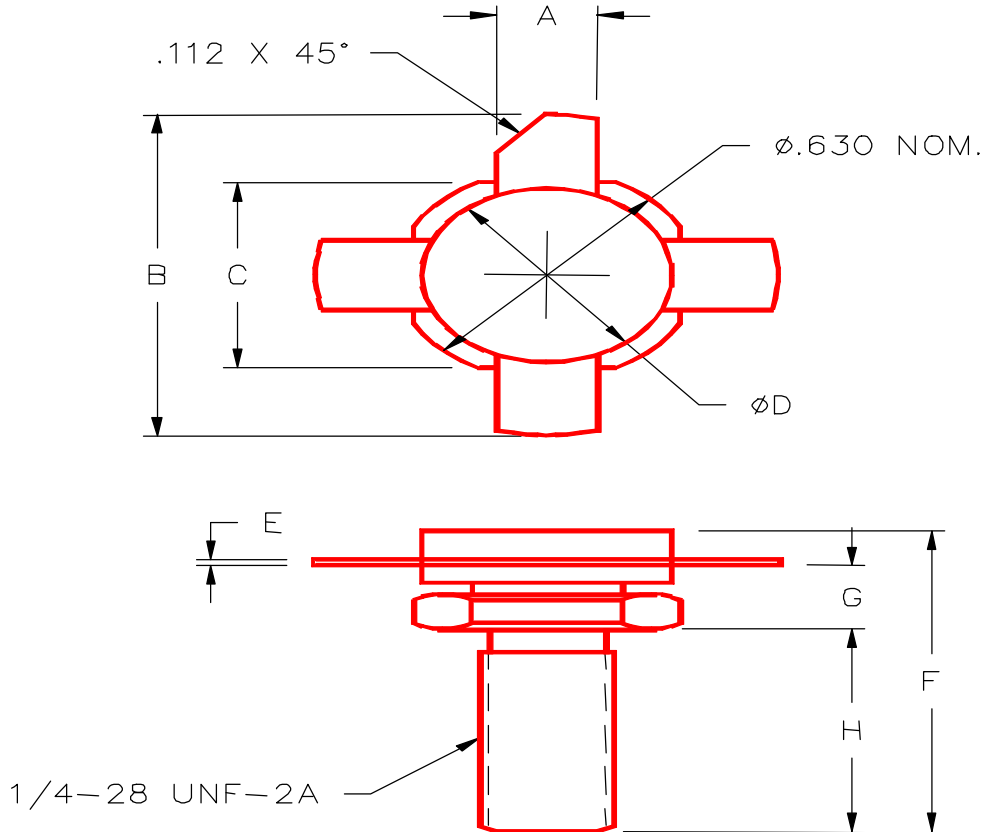
FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
<b>170 MHz</b>	<b>0.6 + j0.7</b>	<b>5.9 + j3.5</b>
<b>200 MHz</b>	<b>0.55 + j0.8</b>	<b>5.0 + j3.0</b>
<b>230 MHz</b>	<b>0.5 + j0.9</b>	<b>4.2 + j2.8</b>

**P<sub>OUT</sub> = 20W**

**V<sub>CE</sub> = 28V**

**PACKAGE MECHANICAL DATA**

PACKAGE STYLE M164



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84			
B		1.050/26,67			
C	.545/13,84	.555/14,10			
D	.495/12,57	.505/12,83			
E	.003/0,08	.007/0,18			
F		.810/20,57			
G	.185/4,70	.198/5,03			
H	.497/12,62	.530/13,46			