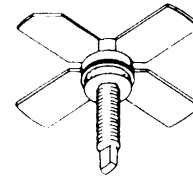


## MS1501

### RF & MICROWAVE TRANSISTORS UHF TV/LINEAR APPLICATIONS

#### Features

- 860 MHz
- $P_{OUT} = 2$  WATTS
- $G_P = 8.5$  dB MINIMUM
- GOLD METALLIZATION
- CLASS A LINEAR OPERATION
- COMMON EMITTER CONFIGURATION



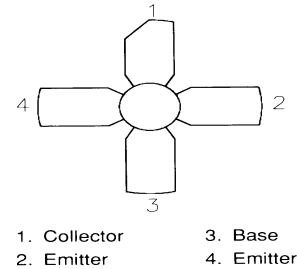
**.280 4L STUD (M122)**  
epoxy sealed

#### DESCRIPTION:

The MS1501 is a silicon NPN bipolar device specifically designed for high linearity applications in the UHF frequency range including TV Bands IV and V.

Gold metallization and emitter ballasting assure high reliability under Class A linear amplifier operation.

#### PIN CONNECTION



#### ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector - Base Voltage	45	V
$V_{CEO}$	Collector - Emitter Voltage	25	V
$V_{EBO}$	Emitter - Base Voltage	4	V
$I_C$	Device Current	800	mA
$P_{DISS}$	Power Dissipation	15.9	W
$T_J$	Junction Temperature	+200	$^{\circ}C$
$T_{stg}$	Storage Temperature	-65 to +150	$^{\circ}C$

#### Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance	11.0	$^{\circ}C/W$
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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> = 10 mA</b>	<b>I<sub>E</sub> = 0 mA</b>	<b>45</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 80 mA</b>	<b>I<sub>B</sub> = 0 mA</b>	<b>25</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>4.0</b>	---	---	<b>V</b>
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 28V</b>	<b>I<sub>E</sub> = 0 mA</b>	---	---	<b>0.45</b>	<b>mA</b>
<b>H<sub>FE</sub></b>	<b>V<sub>CE</sub> = 20 V</b>	<b>I<sub>C</sub> = 250 mA</b>	<b>10</b>	---	<b>100</b>	---

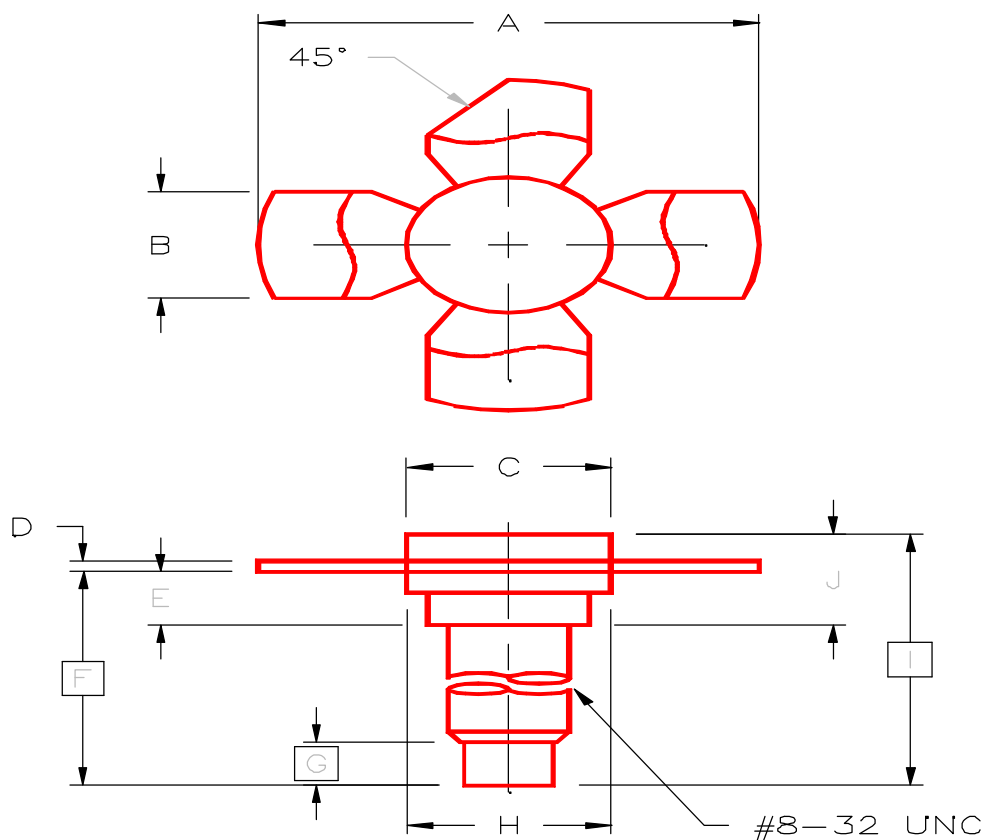
**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 860 MHz</b>	<b>V<sub>CE</sub> = 25V</b>	<b>I<sub>C</sub> = 450 mA</b>	<b>2</b>	---	---	<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 860 MHz</b>	<b>V<sub>CE</sub> = 25V</b>	<b>I<sub>C</sub> = 450 mA</b>	<b>8.5</b>	---	---	<b>dB</b>
<b>IMD<sub>3</sub></b>	<b>P<sub>SYNC</sub> = 2 W</b>	<b>V<sub>CE</sub> = 25V</b>	<b>I<sub>C</sub> = 450 mA</b>	---	<b>-60</b>	---	<b>dBc</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b>	<b>V<sub>CB</sub> = 25V</b>		---	---	<b>10</b>	<b>pf</b>

Conditions: f<sub>1</sub> = 360 MHz, f<sub>2</sub> = 863.5 MHz, f<sub>3</sub> = 864.5 MHz

# PACKAGE MECHANICAL DATA

## PACKAGE STYLE M122



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	1.010/25,65	1.055/26,80	I	.640/16,26	
B	.220/5,59	.230/5,84	J	.175/4,45	.217/5,51
C	.270/6,86	.285/7,24			
D	.003/0,08	.007/0,18			
E	.117/2,97	.137/3,48			
F	.572/14,53				
G	.130/3,30				
H	.275/6,99	.285/7,24			