ADVANCED POWER TECHNOLOGY RF®

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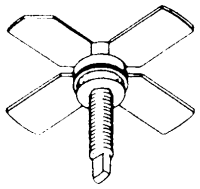
MS1502

RF & MICROWAVE TRANSISTORS
UHF TV\LINEAR APPLICATIONS

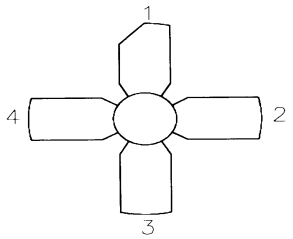


.280 4L STUD (M122)
epoxy sealed

Features

- **860 MHz**
- **GOLD METALLIZATION**
- **CLASS A LINEAR OPERATION**
- **P_{OUT} = 0.5 WATTS**
- **G_P = 9.5 dB MINIMUM**
- **COMMON EMITTER CONFIGURATION**

PIN CONNECTION



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

DESCRIPTION:

The MS1502 is a silicon NPN bipolar transistor designed for UHF linear applications, specifically TV Bands IV and V. The MS1502 is characterized for high linearity, Class A operation. Device ruggedness and reliability are maximized with emitter ballasting and gold metallization.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Device Current	2.0	A
P_{DISS}	Power Dissipation	31.8	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance*	5.5	°C/W

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 1mA	I_E = 0mA	45	---	---	V
BV_{CEO}	I_E = 20mA	I_B=0mA	24	---	---	V
BV_{EBO}	I_E= 0.25mA	I_C = 0mA	3.5	---	---	V
I_{CBO}	V_{CB}= 28 V	I_E = 0mA	------	---	0.45	mA
h_{FE}	V_{CE} = 5 V	I_C = 100mA	15	---	120	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 860 MHz	P_{IN} = 56mW	V_{CE} = 20V	0.5	---	---	W
G_P	f = 860 MHz	P_{IN} = 56mW	V_{CE} = 20V	9.5	---	---	dB
IMD_3	P_{SYNC} = 0.5 W	V_{CE} = 20V	I_C = 220 mA	---	---	-58	dBc
C_{OB}	f = 1 MHz	V_{CB} = 28V		---	---	5	pf

Conditions: VCE = 20V IC = 220 mA
Conditions: f1=860MHz(-8dBc), f2=863.5MHz(-16dBc), f3=864.5MHz(-7dBc)

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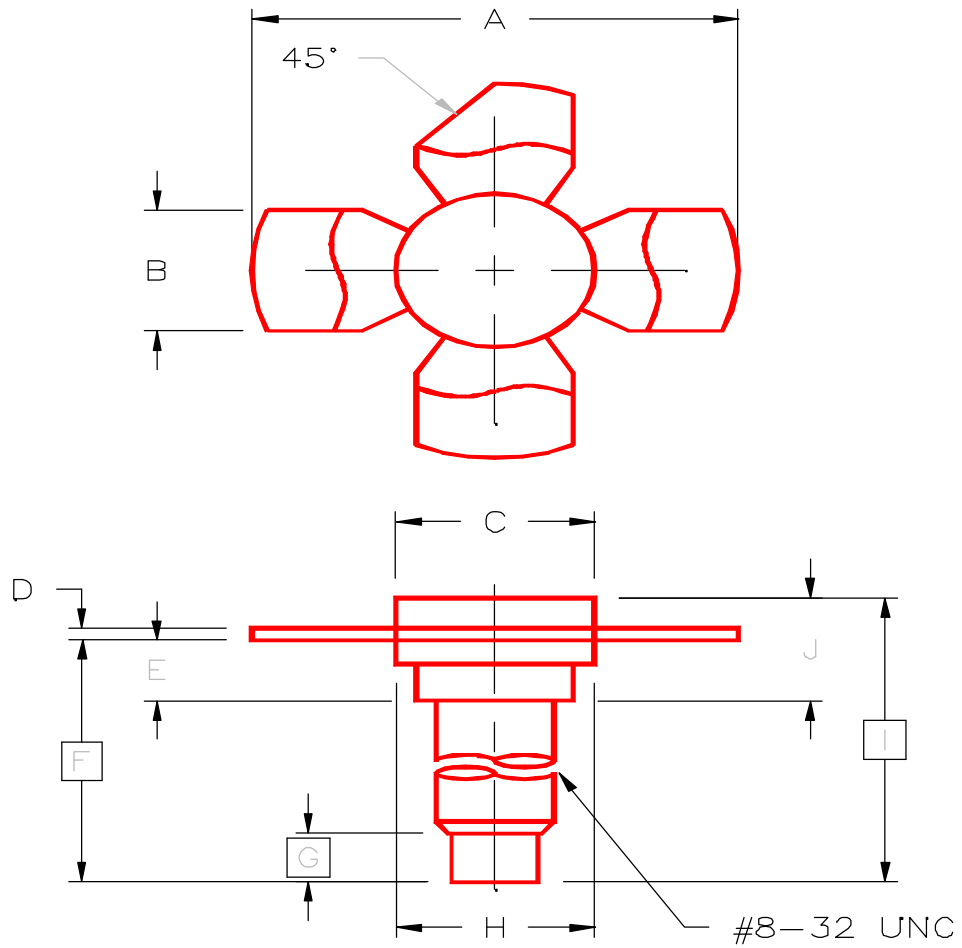
PACKAGE MECHANICAL DATA

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			