ADVANCED POWER TECHNOLOGY RF®

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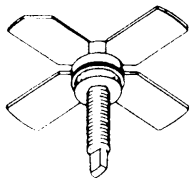
MS1512

RF & MICROWAVE TRANSISTORS
UHF TV/LINEAR APPLICATIONS



.280 4L STUD (M122)
epoxy sealed

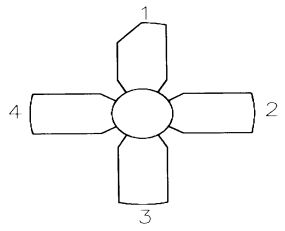
Features

- 860 MHz
- 20 VOLTS
- CLASS A LINEAR OPERATION
- P_{OUT} = 1.0 WATT
- G_P = 10.0 dB MINIMUM
- COMMON EMITTER CONFIGURATION

DESCRIPTION:

The MS1512 is a silicon NPN bipolar transistor designed for UHF linear applications, specifically TV Bands IV and V. The MS1512 is characterized for high linearity, Class A operation. Device ruggedness and reliability are maximized with emitter ballasting and gold metallization.

PIN CONNECTION



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

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	1.2	A
P_{DISS}	Power Dissipation	19.4	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	9.0	°C/W

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ELECTRICAL SPECIFICATIONS (Tcase = 25° C)

STATIC

Symbol		Value			Unit
		Min.	Typ.		
BV_{CBO}	I_C I_E	45	---		V
BV_C	I = 40mA R_{BE} Ω	50		---	V
CEO	C = 40 mA B =0 mA	24		---	V
EBO	E = .5 mA C = 0 mA	3.5		---	V
CBO	CB = 28 V I = 0 mA		---	0.45	
h	V = 5 V I = 200 mA		---	120	-

DYNAMIC

Symbol	Test Conditions				Typ.	Max.	
P	f = 860 MHz	P_{IN}	CE = 20V	1.0		---	W
P		P = 100mW	V_{CE}	10	---		dB
IMD_3	P_{SYNC}	CE = 20V	C = 440 mA	---		-	dBc
C_{OB}	f = 1 MHz	V_{CB}		---	---		pf

Conditions: V_{CE} C = 440 mA
Conditions: f_1 -8dBc), f =863.5MHz(- 3=864.5MHz(7dBc)

IMPEDANCE DATA

FRE	Z (Ω)	CL(Ω)
470 MHz	2.0 - j 1.5	23 - j 35
650 MHz	1.9 - j 0.5	15 - j 27
860 MHz	1.8 + j 0.8	8.0 - j 15

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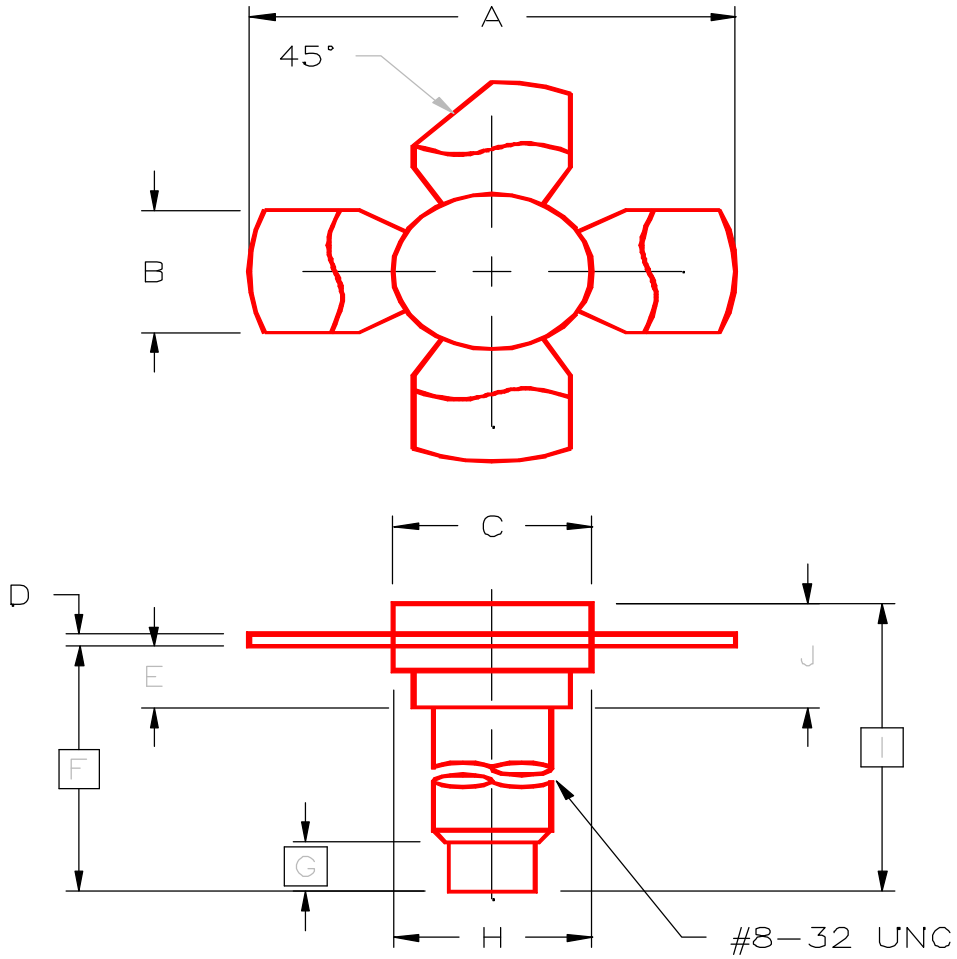
PACKAGE MECHANICAL DATA

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			