

MS1512

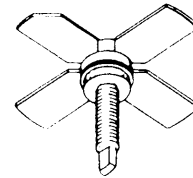
RF & MICROWAVE TRANSISTORS UHF TV/LINEAR APPLICATIONS

Features

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

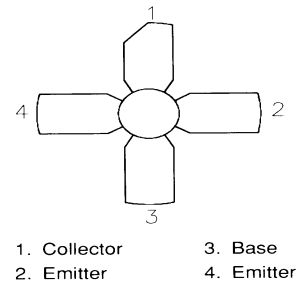
DESCRIPTION:

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.



.280 4L STUD (M122)
epoxy sealed

PIN CONNECTION



ABSOLUTE MAXIMUM RATINGS (T_{case} = 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	$I = 40\text{mA}$ $R_{BE} \quad \Omega$	50		---	V
C_{EO}	$C = 40 \text{ mA}$ $I_B = 0 \text{ mA}$	24		---	V
E_{BO}	$E = .5 \text{ mA}$ $I_C = 0 \text{ mA}$	3.5		---	V
C_{BO}	$C_{CB} = 28 \text{ V}$ $I = 0 \text{ mA}$		---	0.45	
h	$V = 5 \text{ V}$ $I = 200 \text{ mA}$		---	120	-

DYNAMIC

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

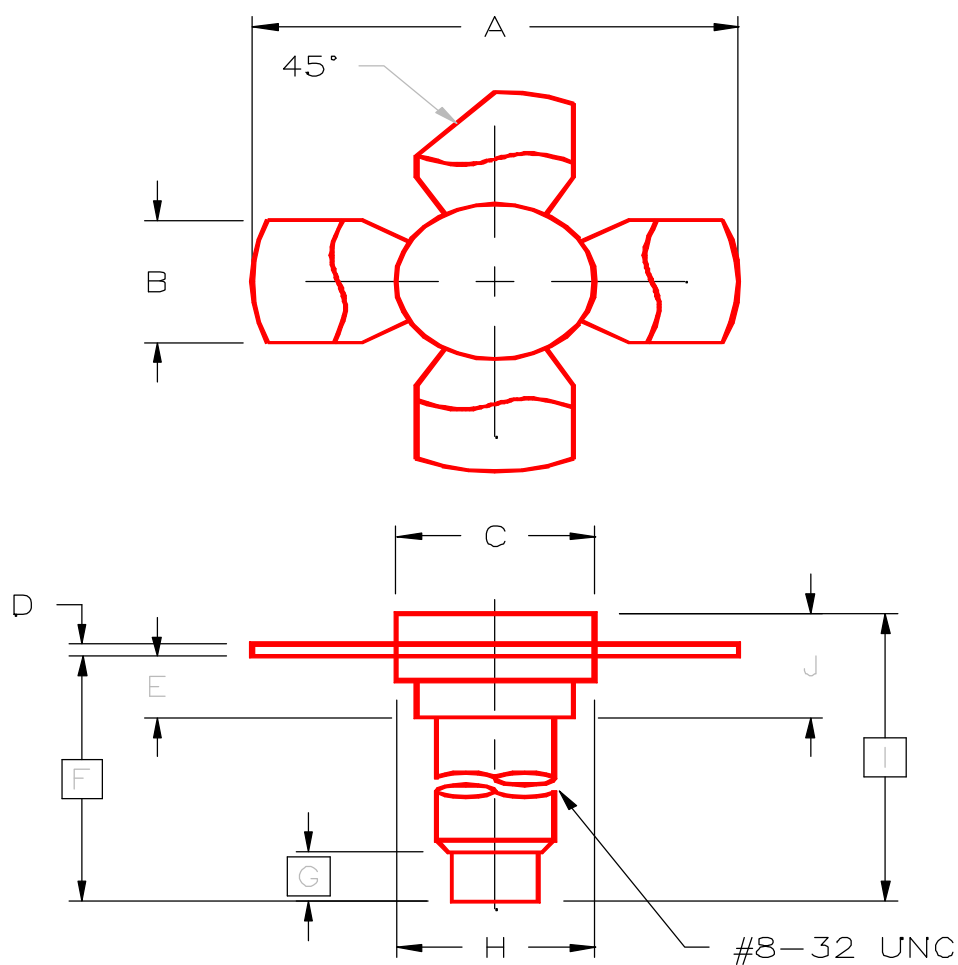
Conditions: V_{CE} $I_C = 440 \text{ mA}$
Conditions: f_1 -8dBc), $f = 863.5\text{MHz}$ (- $f_3 = 864.5\text{MHz}$ (7dBc)

IMPEDANCE DATA

FRE	$Z (\Omega)$	$C_L(\Omega)$
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

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			

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