

MS1512

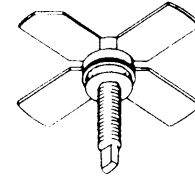
RF & MICROWAVE TRANSISTORS UHF TV/LINEAR APPLICATIONS

Features

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

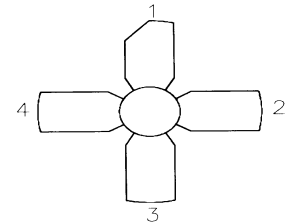
DESCRIPTION:

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



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

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}	$C = 40 \text{ mA}$	$B = 0 \text{ mA}$	24		---	V
E_{BO}	$E = .5 \text{ mA}$	$C = 0 \text{ mA}$	3.5		---	V
C_{BO}	$C_B = 28 \text{ V}$	$I = 0 \text{ mA}$		---	0.45	
h	$V = 5 \text{ V}$	$I = 200 \text{ mA}$		---	120	-

DYNAMIC

Symbol	Test Conditions						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}	$V_{CE} = 20\text{V}$	$C = 440 \text{ mA}$	---		-	dBc
C_{OB}	$f = 1 \text{ MHz}$	V_{CB}		---	---		pf

Conditions: $V_{CE} = 20\text{V}$, $C = 440 \text{ mA}$
 Conditions: f_1 , -8dBc , $f = 863.5\text{MHz}$, $f_3 = 864.5\text{MHz}$ (7dBc)

IMPEDANCE DATA

FRE	Z (Ω)	$c_L(\Omega)$
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

