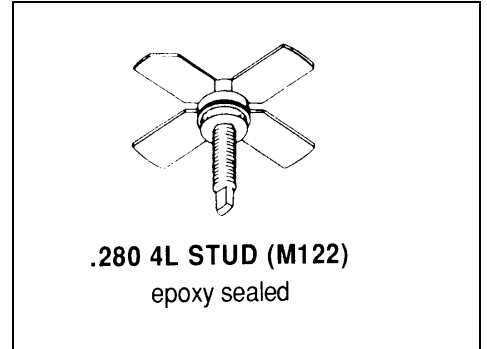


MS1512

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

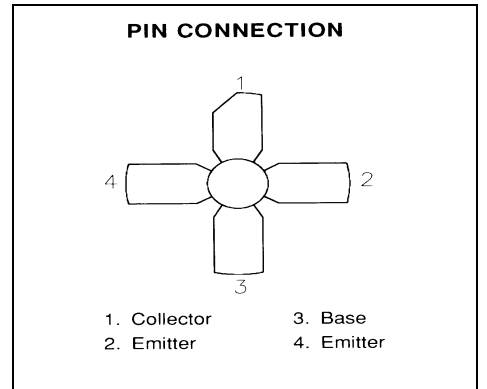
Features

- 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.



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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MS1512

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}	$I_E = .5 \text{ mA}$	$I_C = 0 \text{ mA}$	3.5		---	V
C_{BO}	$V_{CB} = 28 \text{ V}$	$I = 0 \text{ mA}$		---	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}	$V_{CE} = 20\text{V}$	$I_C = 440 \text{ mA}$	---		-	dBc
C_{OB}	$f = 1 \text{ MHz}$	V_{CB}		---	---		pf

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

IMPEDANCE DATA

FRE	Z (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

MS1512

PACKAGE MECHANICAL DATA

