

140 COMMERCE DRIVE MONTGOMERYVILLE, PA 18936-1013 PHONE: (215) 631-9840 FAX: (215) 631-9855

# MS1581

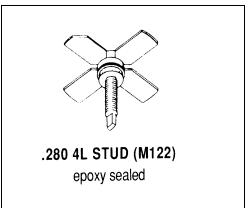
## RF & MICROWAVE TRANSISTORS UHF TV/LINEAR APPLICATIONS

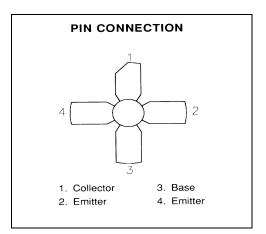
#### Features

- 860 MHz
- 25 VOLTS
- **P**<sub>OUT</sub> = 4.0 WATTS
- $G_P = 7.0 \text{ dB MINIMUM}$
- GOLD METALLIZATION
- COMMON EMITTER CONFIGURATION



The MS1581 is a silicon NPN bipolar transistor specifically designed for high linearity UHF TV driver applications. Gold metallization and emitter ballasting assure high reliability under Class A linear operation.





## ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit	
V <sub>сво</sub>	Collector-Base Voltage	45	V	
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V	
V <sub>EBO</sub>	Emitter-Base Voltage	4	V	
PDISS	Power Dissipation	31.8	W	
Ι <sub>C</sub>	Device Current	1.6	Α	
ТJ	Junction Temperature	+200	°C	
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C	

## **Thermal Data**

R <sub>TH(J-C)</sub> Thermal Resistance Junction-case	5.5	°C/W
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# ELECTRICAL SPECIFICATIONS (Tcase = $25^{\circ}$ C) STATIC

Symbol	Test Conditions		Value	Unit		
	Test conditions		Min.	Typ.	Max.	Unit
<b>BV</b> <sub>CBO</sub>	l <sub>c</sub> = 10 mA	I <sub>E</sub> = 0 mA	45			V
BV <sub>CEO</sub>	l <sub>c</sub> = 20 mA	$I_E = 0 \text{ mA}$	25			V
BV <sub>EBO</sub>	l <sub>E</sub> = 2.5 mA	I <sub>E</sub> = 0 mA	3.0			V
I <sub>сво</sub>	V <sub>CB</sub> = 28 V	I <sub>E</sub> = 0 mA			0.9	mA
HFE	V <sub>CE</sub> = 20 V	I <sub>c</sub> = 500 mA	10		200	

#### DYNAMIC

Symbol	Test Conditions			Value			
	Test conditions			Min.	Typ.	Max.	Unit
Ρουτ	f = 860 MHz	P <sub>IN</sub> = 8 W	$V_{CE} = 25 V$	4.0			W
G <sub>P</sub>	f = 860 MHz	P <sub>IN</sub> = 8 W	V <sub>CE</sub> = 25 V	7.0			dB
IMD <sub>3</sub>	P <sub>SYNC</sub> = 4 W	P <sub>IN</sub> = 8 W	V <sub>CE</sub> = 25 V			-60	dBc
Сов	f = 1 MHz	V <sub>CB</sub> = 25 V				20	pf
Conditions:	V <sub>CE</sub> = 25 V	I <sub>C</sub> = 850	) mA				



## **MS1581**

## PACKAGE MECHANICAL DATA

