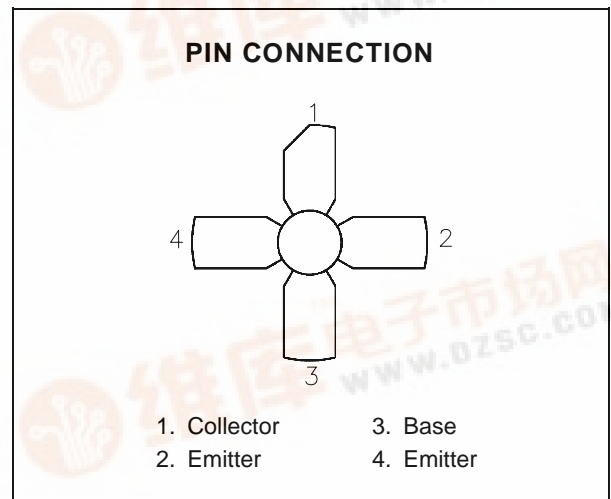
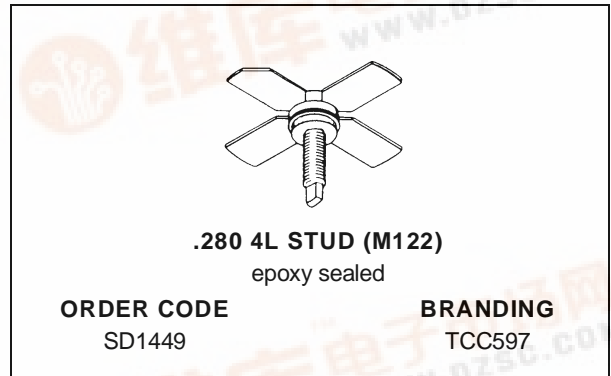




# SD1449 (TCC597)

## RF & MICROWAVE TRANSISTORS UHF TV\LINEAR APPLICATIONS

- 860 MHz
- 20 VOLTS
- COMMON EMITTER
- GOLD METALLIZATION
- CLASS A LINEAR OPERATION
- $P_{OUT} = 1.0 \text{ W MIN. WITH } 10.0 \text{ dB GAIN}$



### DESCRIPTION

The SD1449 is a silicon NPN bipolar device specifically designed for high linearity applications in the UHF frequency range including TV Bands IV and V.

Gold metallization and emitter ballasting assure high reliability under Class A linear amplifier operation.

### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	45	V
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V
V <sub>EBO</sub>	Emitter-Base Voltage	3.5	V
I <sub>c</sub>	Device Current	1.2	A
P <sub>DISS</sub>	Power Dissipation	19.4	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +150	°C

### THERMAL DATA

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	9.0	°C/W
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## SD1449 (TCC597)

### ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

#### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 2 mA	I <sub>E</sub> = 0 mA	45	—	—	V
BV <sub>CER</sub>	I <sub>C</sub> = 40 mA	R <sub>BE</sub> = 10 Ω	50	—	—	V
BV <sub>CEO</sub>	I <sub>C</sub> = 40 mA	I <sub>B</sub> = 0 mA	24	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = .5 mA	I <sub>C</sub> = 0 mA	3.5	—	—	V
I <sub>CBO</sub>	V <sub>CB</sub> = 28 V	I <sub>E</sub> = 0 mA	—	—	0.45	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5 V	I <sub>C</sub> = 200 mA	20	—	120	—

#### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub> <sup>1</sup>	f = 860 MHz	V <sub>CE</sub> = 20 V	I <sub>C</sub> = 440 mA	1	—	—	W
P <sub>G</sub> <sup>2</sup>	f = 860 MHz	V <sub>CE</sub> = 20 V	I <sub>C</sub> = 440 mA	10	—	—	dB
IMD <sub>3</sub> <sup>3</sup>	P <sub>SYNC</sub> = 1 W	V <sub>CE</sub> = 20 V	I <sub>C</sub> = 440 mA	—	—	-58	dBc
IMD <sub>3</sub> <sup>3</sup>	P <sub>SYNC</sub> = 2 W	V <sub>CE</sub> = 20 V	I <sub>C</sub> = 440 mA	—	—	-51	dBc
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 20V		—	—	7	pF

Note 1: P<sub>IN</sub> = 0.1W

Note 2: P<sub>OUT</sub> = 1 W

Note 3: Levels relative to P<sub>SYNC</sub>

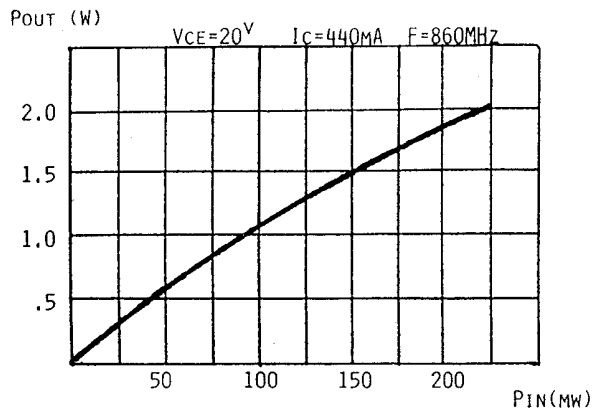
f<sub>1</sub> = 860.0 MHz -8dBc

f<sub>2</sub> = 863.5 MHz -16dBc

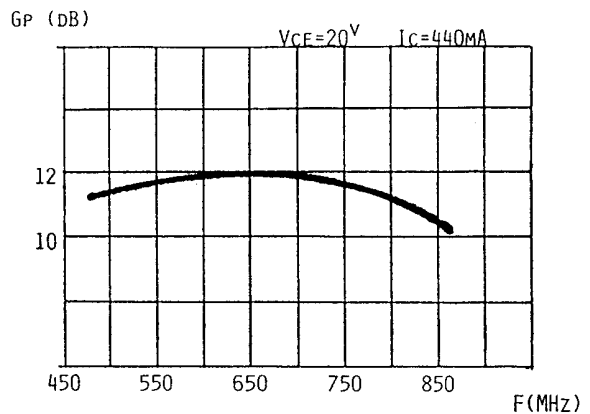
f<sub>3</sub> = 864.5 MHz -7dBc

#### TYPICAL PERFORMANCE

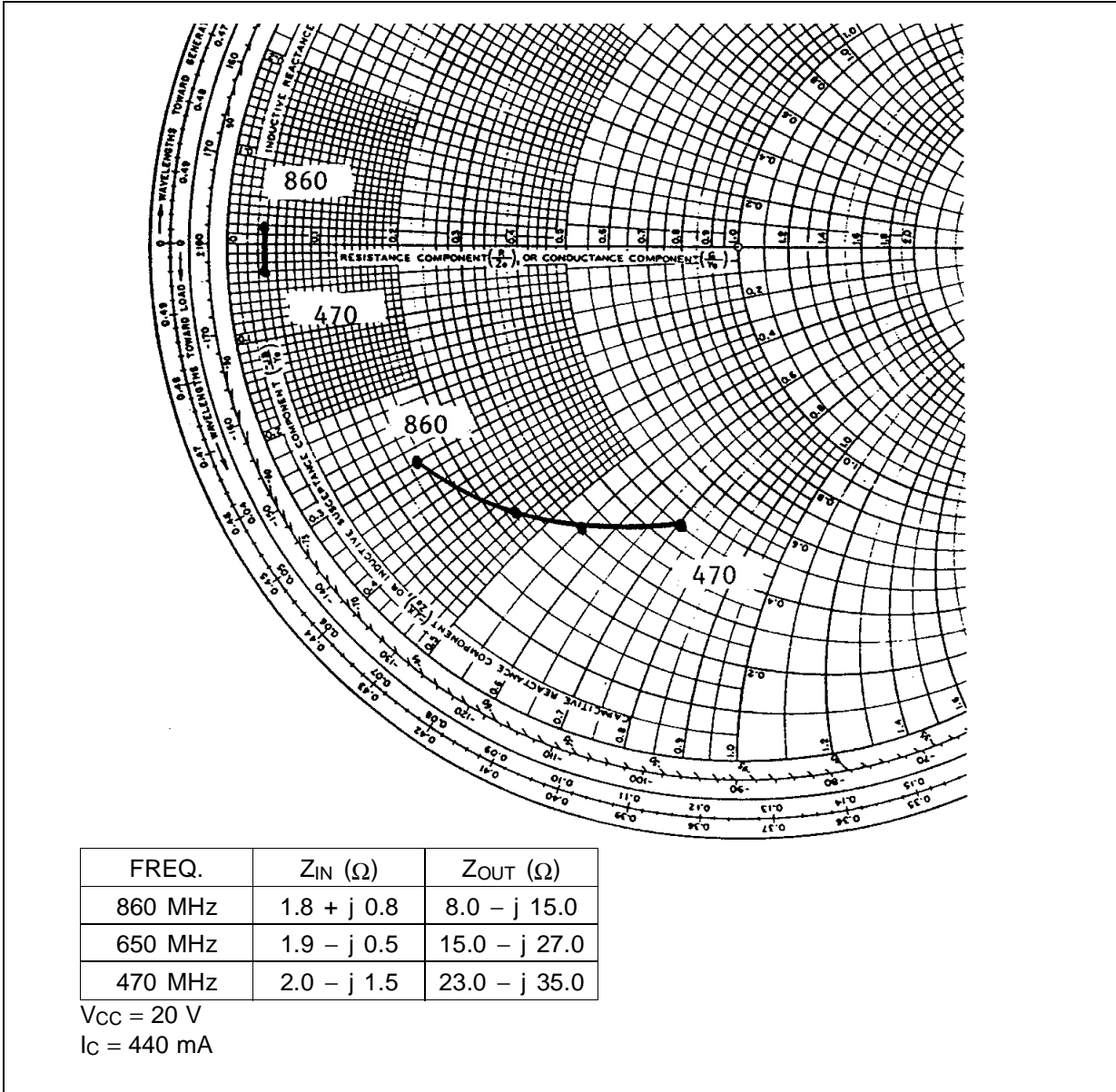
POWER OUTPUT vs INPUT POWER



BROADBAND POWER GAIN vs FREQUENCY



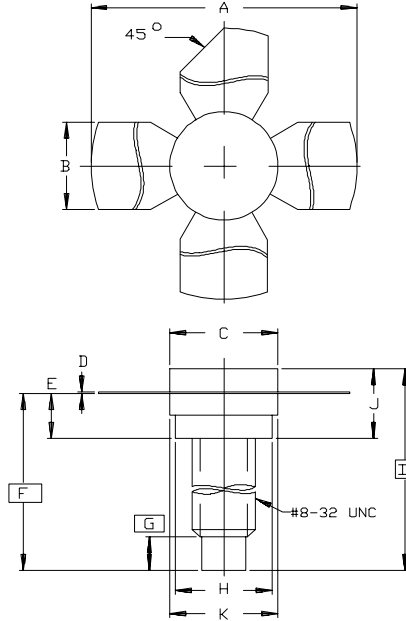
IMPEDANCE DATA



**SD1449 (TCC597)**

**PACKAGE MECHANICAL DATA**

Ref.: Dwg. No.12-0122 rev. B



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	1.010/25,65	1.055/26,80
B	.220/5,59	.230/5,84
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	.245/6,22	.255/6,48
I	.640/16,26	
J	.175/4,45	.217/5,51
K	.275/6,99	.285/7,24

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