

SSM**SOLID STATE MICROWAVE****SD1132-5****THOMSON-CSF COMPONENTS CORPORATION**

Montgomeryville, PA 18936 ■ (215) 855-8400 ■ TWX 510-661-7299

UHF COMMUNICATIONS TRANSISTOR**DESCRIPTION**

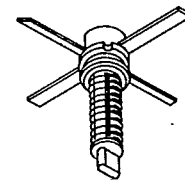
SSS device type SD1132-5 is a 12 volt epitaxial silicon NPN Planar Transistor designed primarily for UHF predriver applications. This device uses nichrome aluminum metallization to achieve infinite VSWR at rated operating conditions.

FEATURES

- Designed for UHF Predriver Applications
- 600 mW (minimum) with greater than 13.0 dB gain
- Miniature Stripline Package
- Withstands infinite VSWR at rated conditions
- Broadband performance

ABSOLUTE MAX. RATING

V _{CBO}	: Collector-Base Voltage	36.0 V
V _{CEO}	: Collector-Emitter Voltage	18.0 V
V _{EBO}	: Emitter-Base Voltage	4.0 V
I _c	: Collector Current (max.)	0.7 A
PT.	: Total Device Dissipation @ 25°C Case	2.5 W
ϕ _{jc}	: Thermal Resistance	70° C/W
T _j	: Junction Temperature	200°C
T _s	: Storage Temperature	-65°C to +200°C

**X072****ELECTRICAL CHARACTERISTICS**

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage*	BV _{CEO}	I _c = 10 mA, I _b = 0	18.0	—	—	V _{dc}
Collector-Emitter Breakdown Voltage*	BV _{CES}	I _c = 10 mA, V _{be} = 0	36.0	—	—	V _{dc}
Emitter-Base Breakdown Voltage	BV _{EBO}	I _e = 5.0 mA, I _c = 0	4.0	—	—	V _{dc}
Collector Cut Off Current	I _{CBO}	V _{cb} = 12.5 V, I _e = 0	—	—	1.0	mA
DC Current Gain	h _{FE}	V _{ce} = 5 V, I _c = 150 mA	20.0	—	—	—

* Pulsed through 25 MH Inductor

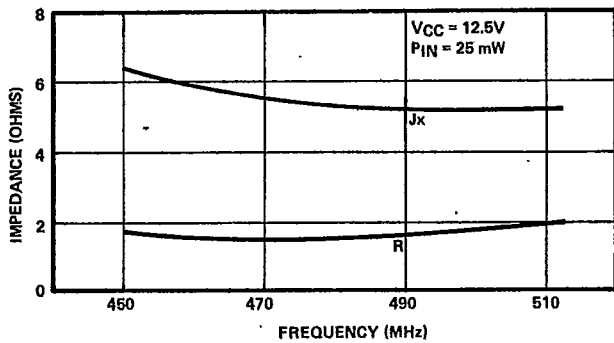
RF CHARACTERISTICS: SMALL SIGNAL

Output Capacitance — F _o = 1.0 MHz	C _{ob}	V _{cb} = 12.5V, I _e = 0	—	—	4.0	pF
Input Capacitance — F _o = 1.0 MHz	C _{ib}	V _{eb} = 0.5V, I _c = 0	—	—	20.0	pF

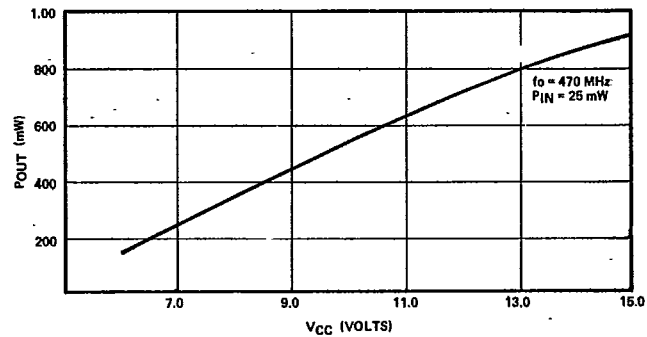
RF CHARACTERISTICS: LARGE SIGNAL

Amplifier power out	P _o	f _o = 470 MHz, V _{ce} = 12.5 V	600	—	—	mW
Amplifier power gain	P _g	" "	13	—	—	dB
Impedance Input	Z _s	f _o = 470 MHz, V _{ce} = 12.5 V	1.5 + J 5.5	—	Typ.	ohms
Impedance Output	Z _{cl}		14 + J 43	—	Typ.	ohms

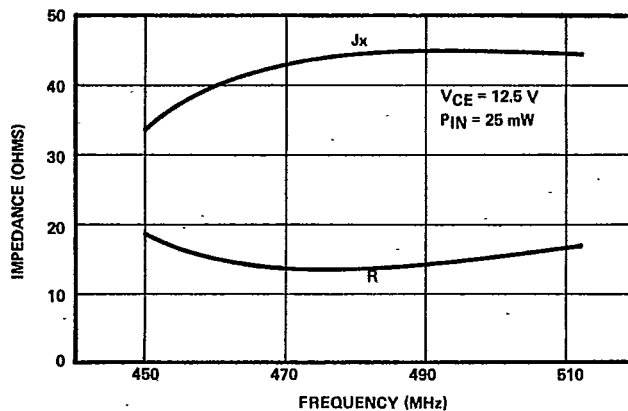




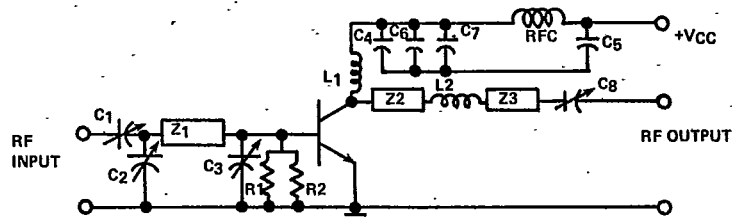
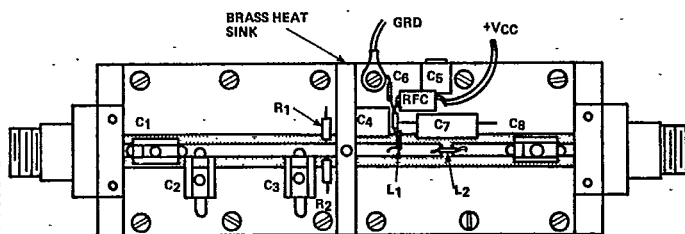
SOURCE IMPEDANCE VS FREQUENCY



POWER OUTPUT VS VCC



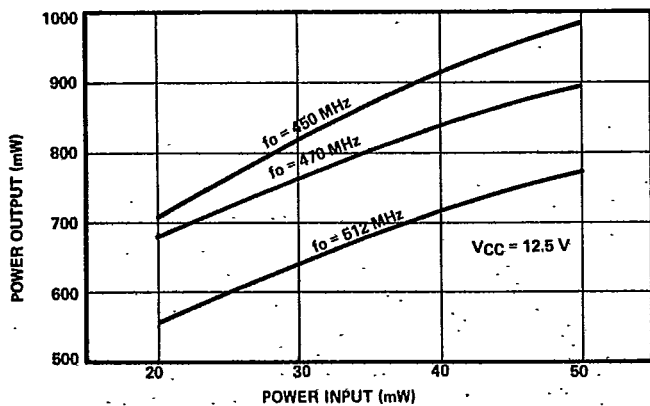
COLLECTOR LOAD IMPEDANCE VS FREQUENCY



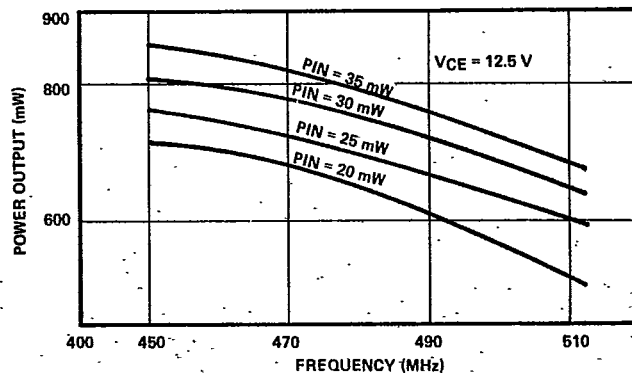
COMPONENT LIST

- | | |
|--|---|
| C ₁ , C ₂ , C ₃ - 0.9-7 pf ARCO 400 | R ₁ , R ₂ - 470 OHM, 1/2 WATT |
| C ₄ , C ₅ - 1000 pf UNELCO | Z ₁ - 50 OHM, 1.25" x .1875 |
| C ₆ - .01 uf CERAMIC DISK | Z ₂ , Z ₃ - 50 OHM, .50 x .1875 |
| C ₇ - 10uf 50V ELECTROLYTIC | BOARD MATERIAL DOUBLE SIDED |
| C ₈ - 8-60pf ARCO 404 | COPPER, .0625 THK, 3M K 6098 |
| L ₁ , L ₂ - 1 TURN, #20 AWG, .125ID | MOUNTED ON .375 BRASS PLATES |

TEST FIXTURE - 450-512 MHz



POWER OUTPUT VS POWER INPUT



POWER OUTPUT VS FREQUENCY