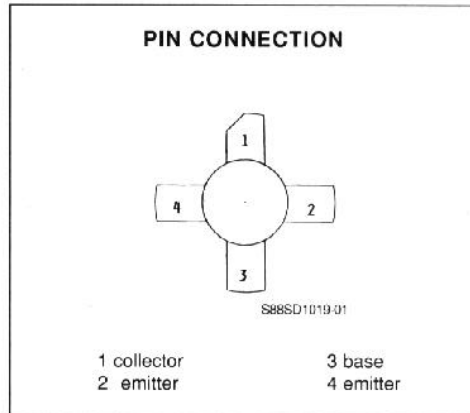


**RF & MICROWAVE TRANSISTORS**  
**108...152MHz APPLICATIONS**

- CLASS C TRANSISTOR
- FREQUENCY 136MHz
- VOLTAGE 28V
- POWER OUT 80W
- POWER GAIN 9.0dB
- COMMON EMITTER



**DESCRIPTION**

The SD1019 is a 28 volt epitaxial silicon NPN planar transistor designed primarily for VHF communications. This device utilizes nichrome aluminium metallization to achieve infinite VSWR at rated operating conditions.

**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector - Base Voltage	65.0	V
$V_{CEO}$	Collector - Emitter Voltage	35.0	V
$V_{EBO}$	Emitter - Base Voltage	4.0	V
$I_C$	Collector Current	9.0	A
$P_{tot}$	Total Power Dissipation	117.0	W
$T_{stg}$	Storage Temperature	- 65 to + 150	$^{\circ}C$
$T_j$	Junction Temperature	+ 200	$^{\circ}C$

**THERMAL DATA**

$R_{th(j-c)}$	Junction-case Thermal Resistance	1.7	$^{\circ}C/W$
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**SD1019****ELECTRICAL CHARACTERISTICS** ( $T_{\text{case}} = 25^{\circ}\text{C}$ )

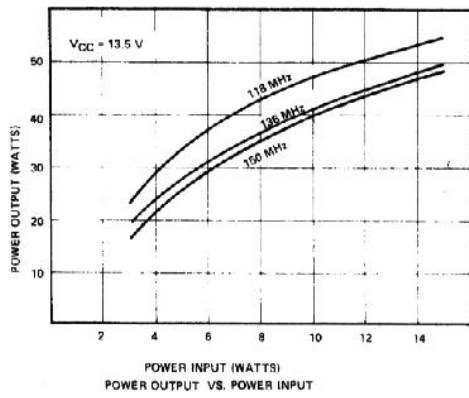
## STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{\text{CBO}}$	$I_{\text{C}} = 20\text{mA}$	$I_{\text{E}} = 0$	65.0			V
$BV_{\text{CEO}}$	$I_{\text{C}} = 200\text{mA}$	$I_{\text{B}} = 0$	35.0			V
$BV_{\text{EBO}}$	$I_{\text{E}} = 10\text{mA}$	$I_{\text{C}} = 0$	4.0			V
$I_{\text{CBO}}$	$V_{\text{CB}} = 30.0\text{V}$	$I_{\text{E}} = 0$		1.5		mA
$h_{\text{FE}}$	$V_{\text{CE}} = 5.0\text{V}$	$I_{\text{C}} = 500\text{mA}$	5.0			

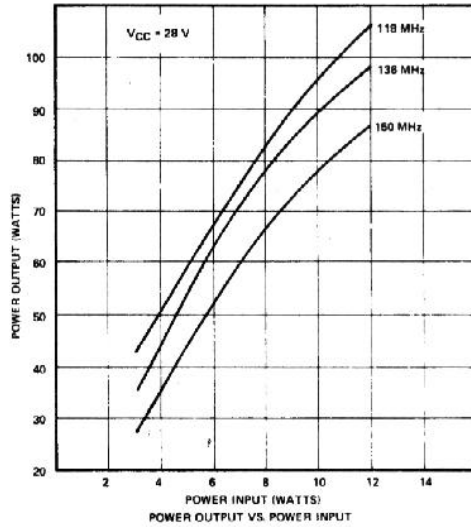
## DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$P_{\text{O}}$	$f = 136\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$	80.0			W
$G_{\text{P}}$	$f = 136\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$	9.0			dB
$C_{\text{OB}}$	$f = 1\text{MHz}$	$V_{\text{CB}} = 30.0\text{V}$			150	pF

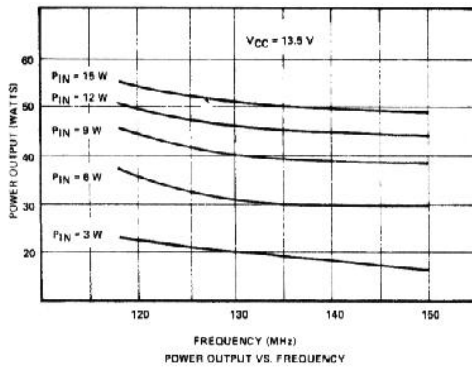
APPLICATION INFORMATION (typical curves)



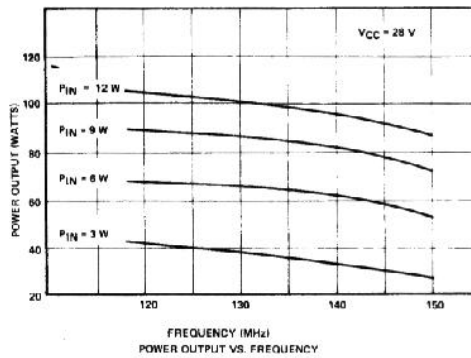
S88SD1019-02



S88SD1019-03



S88SD1019-04



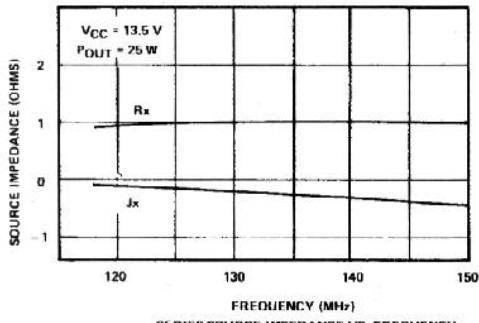
S88SD1019-05

**SD1019**

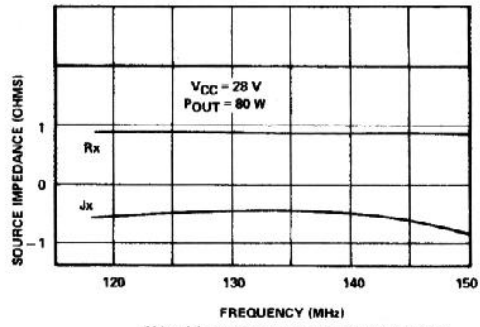
**IMPEDANCE DATA** (typical value)

$Z_S = .85 - j 0.5W$   
 $Z_{CL} = 4.5 + j 1.9W$   
 $F = 136MHz$

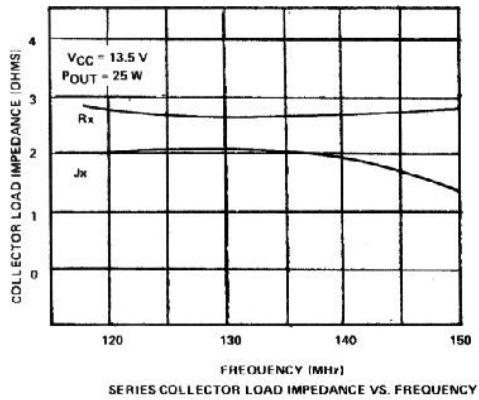
$V_{CE} = 28V$   
 $P_O = 80W$



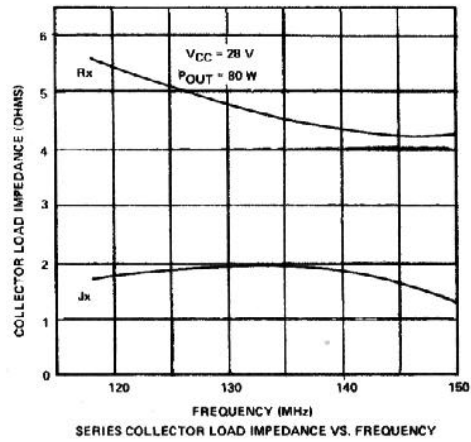
S88SD1019-06



S88SD1019-07

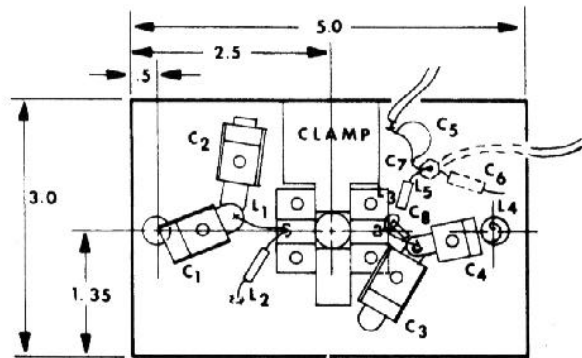
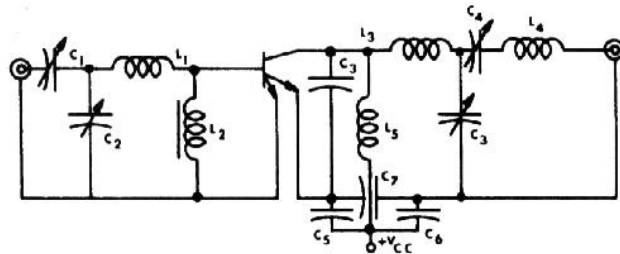


S88SD1019-09



S88SD1019-10

TEST CIRCUIT



S88SD1019 10

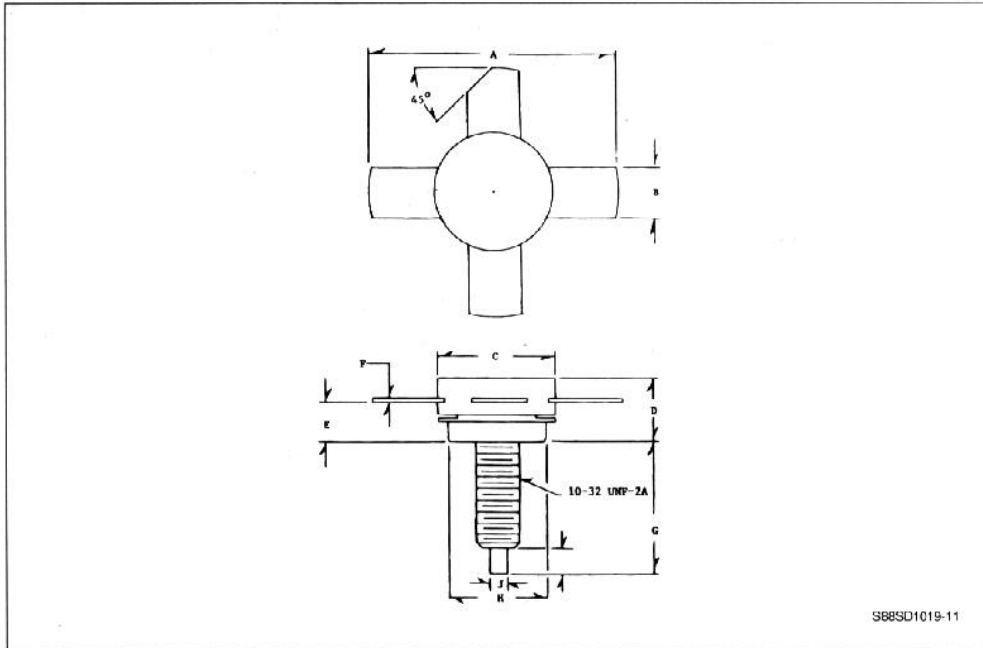
- C1 ARCO 462
- C2, C3, C4 ARCO 463
- C5 .02mF ERIE
- C6 15mF SEMCOR
- C7 AB 220pF FEEDTHRU

- C8 150pF UNELCO
- L1 NO. 14AWG. WIRE, .3 LONG
- L2 12mH CHOKE
- L3 1 TURN, NO 20 AWG, WIRE, 3" I.D., 25 LONG
- L4 1 TURN, NO 16 AWG, WIRE, .23" I.D., .1 LONG
- L5 .22mH DECI-DUCTOR

**SD1019**

**PACKAGE MECHANICAL DATA**

.500 4LSTUD



	Minimum Inches	Maximum Inches
A		1.030
B	.220	.230
C	.490	.510
D	.250	.290
E	.160	.180
F	.004	.006
G	.550	.600
H	.415	.425
I	.100	.130
J	.065	.075