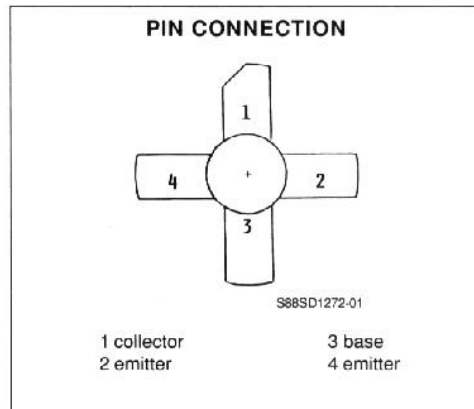
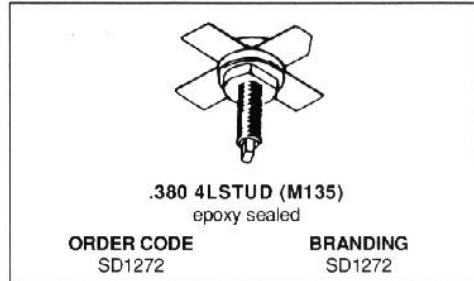


**RF & MICROWAVE TRANSISTORS**  
**130... 230MHz FM MOBILE APPLICATIONS**

- FM CLASS C TRANSISTOR
- FREQUENCY 175MHz
- VOLTAGE 12.5V
- POWER OUT 25W
- POWER GAIN 9.2dB
- COMMON EMITTER



**DESCRIPTION**

The SD1272 is a 12.5V epitaxial silicon NPN planar transistor designed primarily for VHF communications. This device utilizes a nichrome aluminum metallization system to withstand infinite VSWR under severe operating conditions.

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

Symbol	Parameter	Value	Unit
$V_{CBO}$	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	4.0	A
$P_{tot}$	Total Power Dissipation	65.0	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	3.5	$^{\circ}C/W$
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**SD1272**

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$ )

**STATIC**

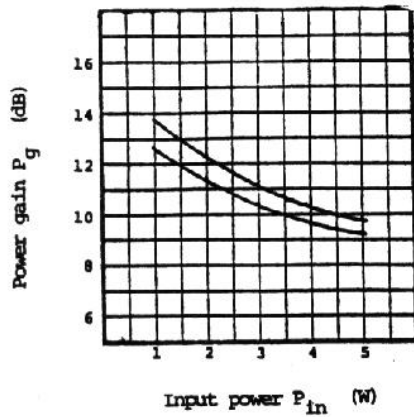
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 20mA$	$I_E = 0$	36.0			V
$BV_{CEO}$	$I_C = 50mA$	$I_B = 0$	18.0			V
$BV_{EBO}$	$I_E = 5mA$	$I_C = 0$	4.0			V
$I_{CBO}$	$V_{CB} = 15.0V$	$I_E = 0$			5.0	mA
$h_{FE}$	$V_{CE} = 5.0V$	$I_C = 250mA$	5.0			

**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_O$	$f = 175MHz$	$V_{CE} = 12.5V$			25.0		W
$G_P$	$f = 175MHz$	$V_{CE} = 12.5V$			9.2		dB
$C_{OB}$	$f = 1MHz$	$V_{CB} = 15.0V$	$I_E = 0$			130.0	pF

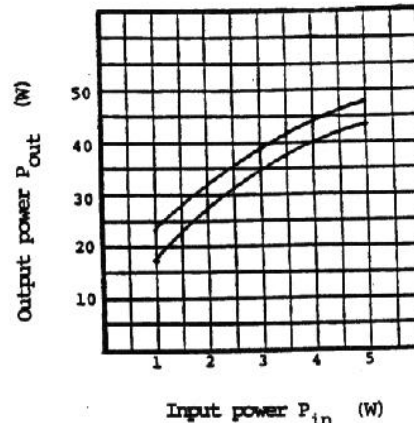
**APPLICATION INFORMATION** (typical curves)

**POWER GAIN VS INPUT POWER**



S88SD1272-02

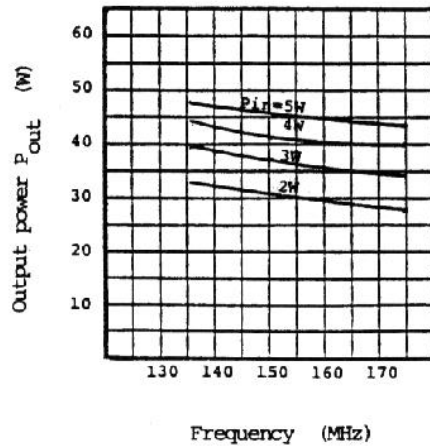
**OUTPUT POWER VS INPUT POWER**



S88SD1272-03

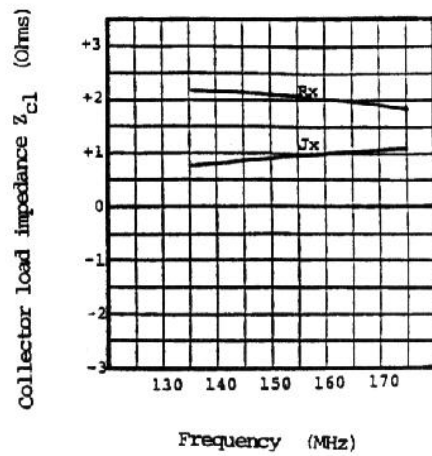
## APPLICATION INFORMATION (typical curves)

## OUTPUT POWER VS FREQUENCY

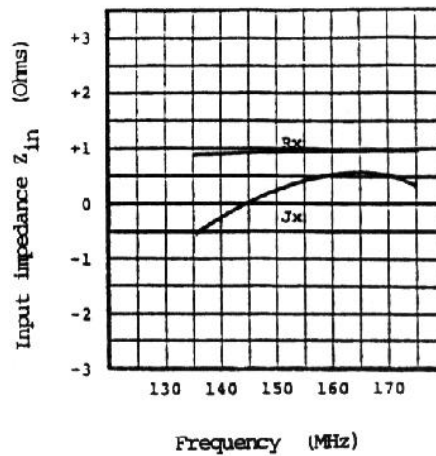


## IMPEDANCE DATA (typical)

## COLLECTOR LOAD IMPEDANCE VS FREQUENCY

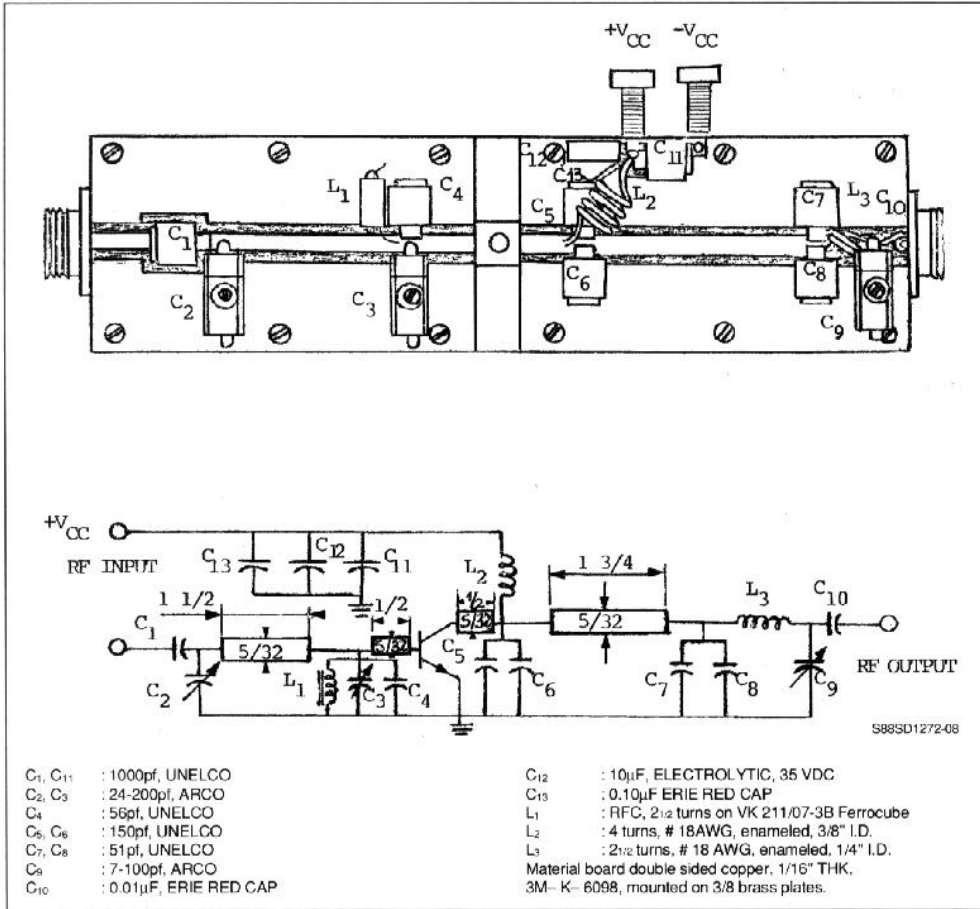


## INPUT IMPEDANCE VS FREQUENCY



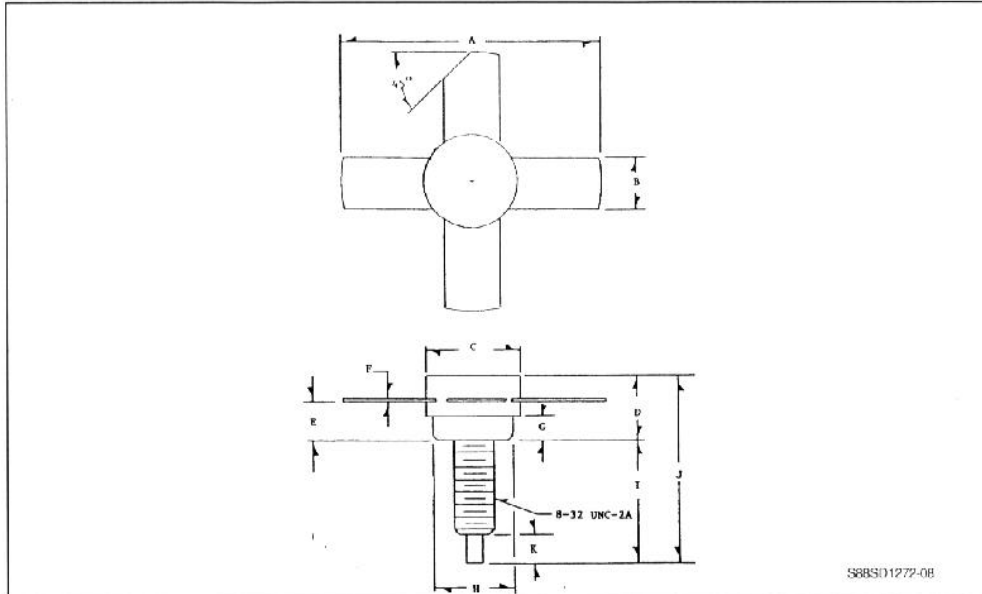
SD1272

TEST CIRCUIT



## PACKAGE MECHANICAL DATA

.380 4LSTUD



	Minimum Inches	Maximum Inches
A	.980	
B	.220	.230
C	.370	.385
D		.275
E	.155	.175
F	.004	.007

	Minimum Inches	Maximum Inches
G	.090	.100
H	.320	.330
I	.450	.490
J		.750
K	.100	.130