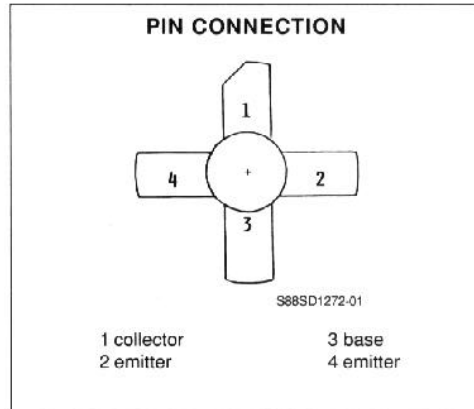


RF & MICROWAVE TRANSISTORS
130... 230MHz FM MOBILE APPLICATIONS

- 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

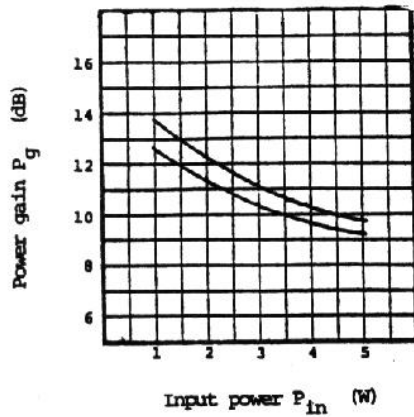
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 20mA$	$I_E = 0$	36.0			V
BV_{CEO}	$I_C = 50mA$	$I_B = 0$	18.0			V
BV_{EBO}	$I_E = 5mA$	$I_C = 0$	4.0			V
I_{CBO}	$V_{CB} = 15.0V$	$I_E = 0$			5.0	mA
h_{FE}	$V_{CE} = 5.0V$	$I_C = 250mA$	5.0			

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

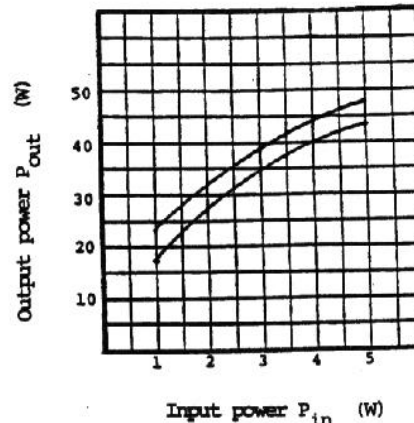
APPLICATION INFORMATION (typical curves)

POWER GAIN VS INPUT POWER



S88SD1272-02

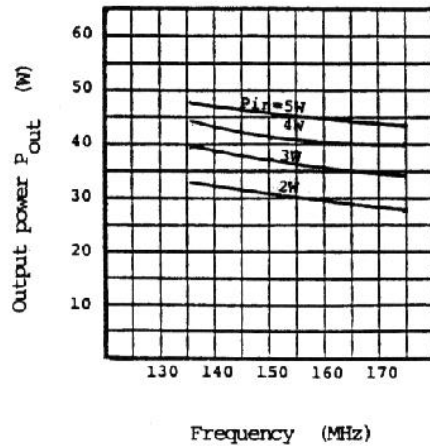
OUTPUT POWER VS INPUT POWER



S88SD1272-03

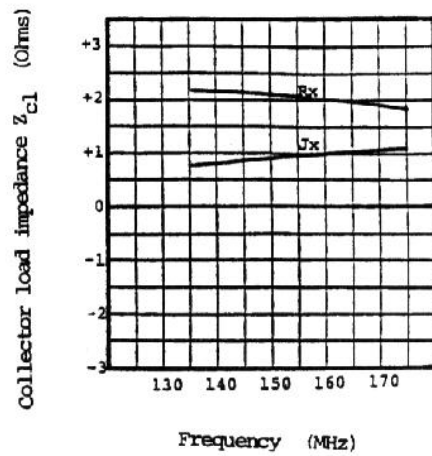
APPLICATION INFORMATION (typical curves)

OUTPUT POWER VS FREQUENCY

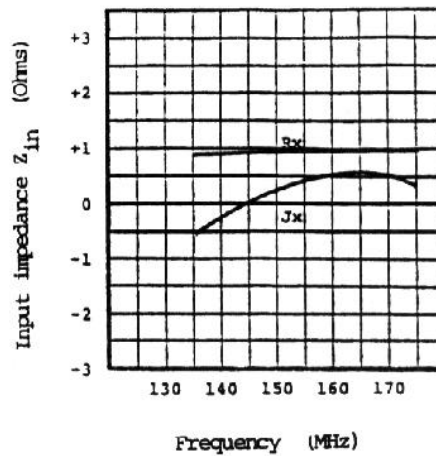


IMPEDANCE DATA (typical)

COLLECTOR LOAD IMPEDANCE VS FREQUENCY

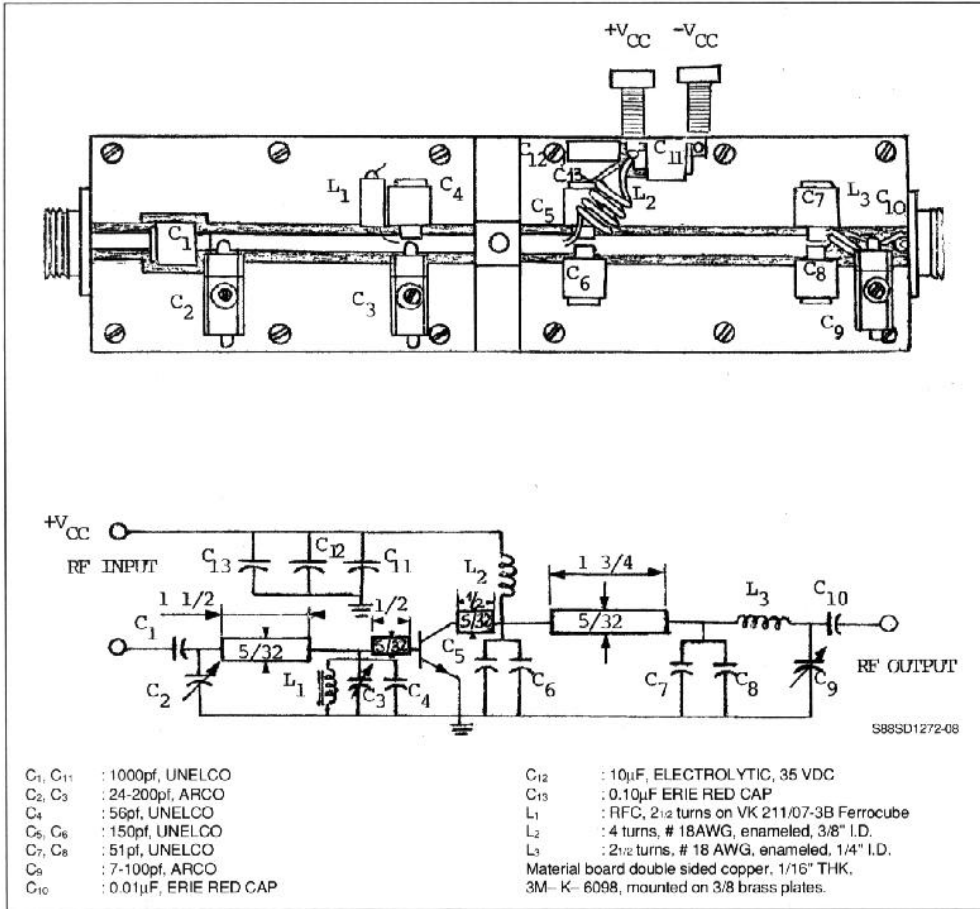


INPUT IMPEDANCE VS FREQUENCY



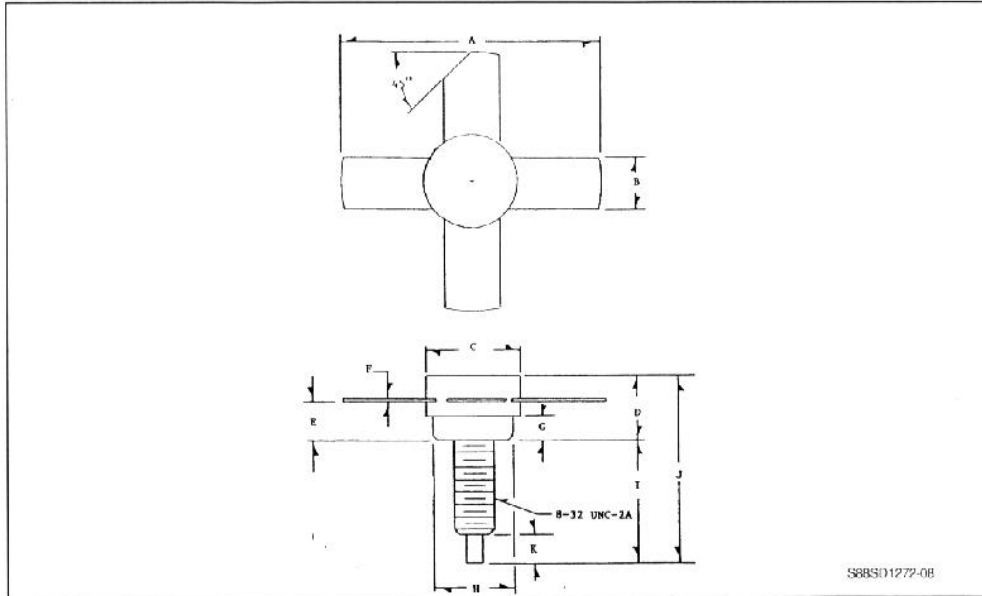
SD1272

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