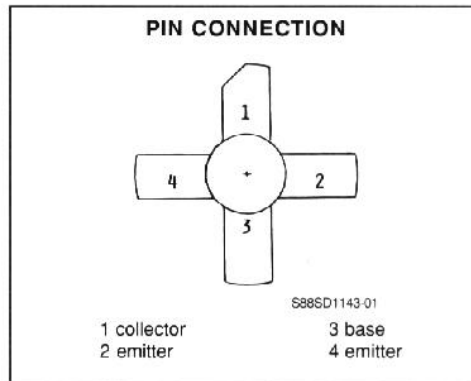
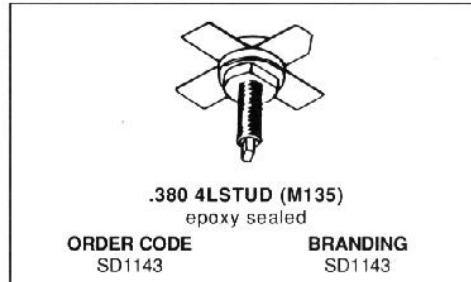


RF & MICROWAVE TRANSISTORS
130... 230MHz FM MOBILE APPLICATIONS

- FM CLASS C TRANSISTOR
- FREQUENCY 175MHz
- VOLTAGE 12.5V
- POWER OUT 10W
- POWER GAIN 10dB
- COMMON EMITTER



DESCRIPTION

The SD1143 is a 12.5V epitaxial silicon NPN planar transistor designed primarily for VHF communications. It withstands very high VSWR under 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_{CES}	Collector - Emitter Voltage	36.0	V
V_{EBO}	Emitter - Base Voltage	4.0	V
I_C	Collector Current	2.0	A
P_{tot}	Total Power Dissipation	20.0	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	8.75	$^{\circ}C/W$
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SD1143

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

STATIC

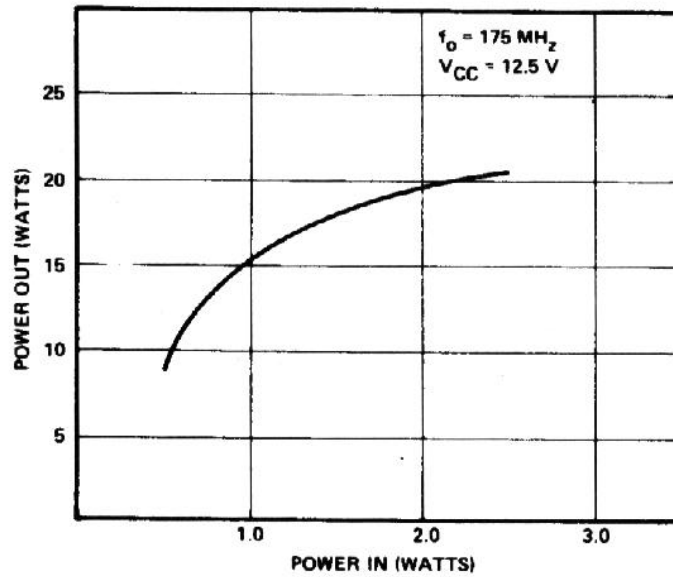
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_C = 50mA$	$V_{BE} = 0$	36.0			V
BV_{CEO}	$I_C = 15mA$	$I_B = 0$	18.0			V
BV_{EBO}	$I_E = 2.5mA$	$I_C = 0$	4.0			V
I_{CBO}	$V_{CB} = 15.0V$	$I_E = 0$			1.0	mA
h_{FE}	$V_{CE} = 5.0V$	$I_C = 250A$	5.0			

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_O	$f = 175MHz$	$V_{CE} = 12.5V$				10.0	W
G_P	$f = 175MHz$	$V_{CE} = 12.5V$				10.0	dB
C_{OB}	$f = 1MHz$	$V_{CB} = 15.0V$				45	pF

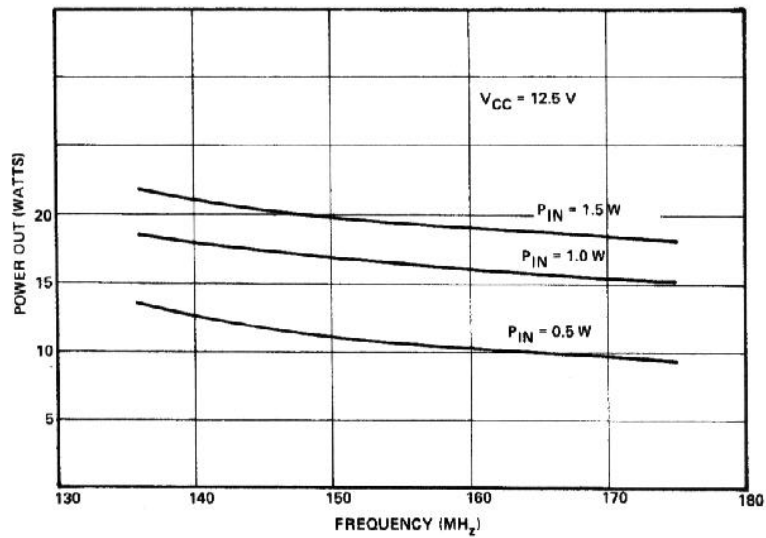
APPLICATION INFORMATION (typical curves)

POWER OUT VS. POWER IN



S88SD1143-02

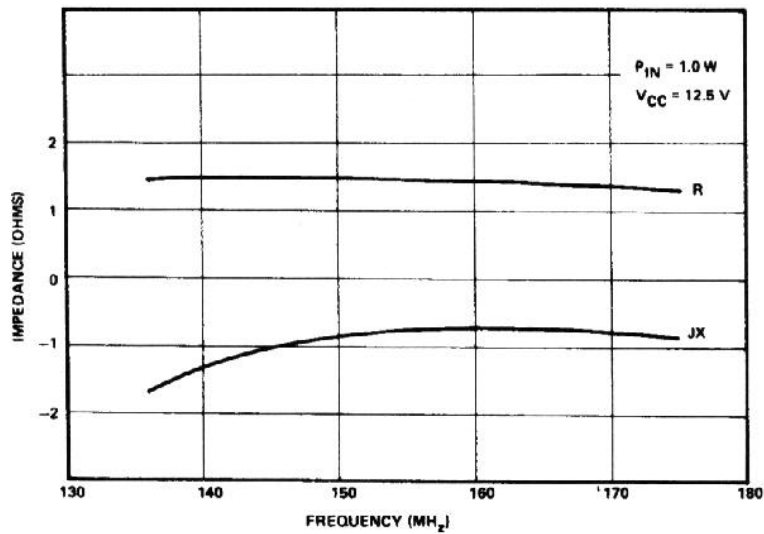
POWER OUT VS. FREQUENCY



S88SD1143-03

IMPEDANCE DATA (typical)

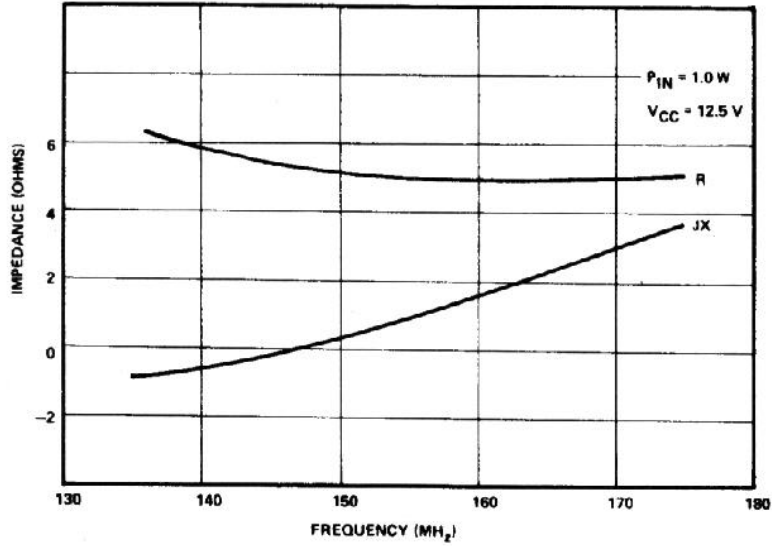
SERIES SOURCE IMPEDANCE VS. FREQUENCY



S88SD1143-04

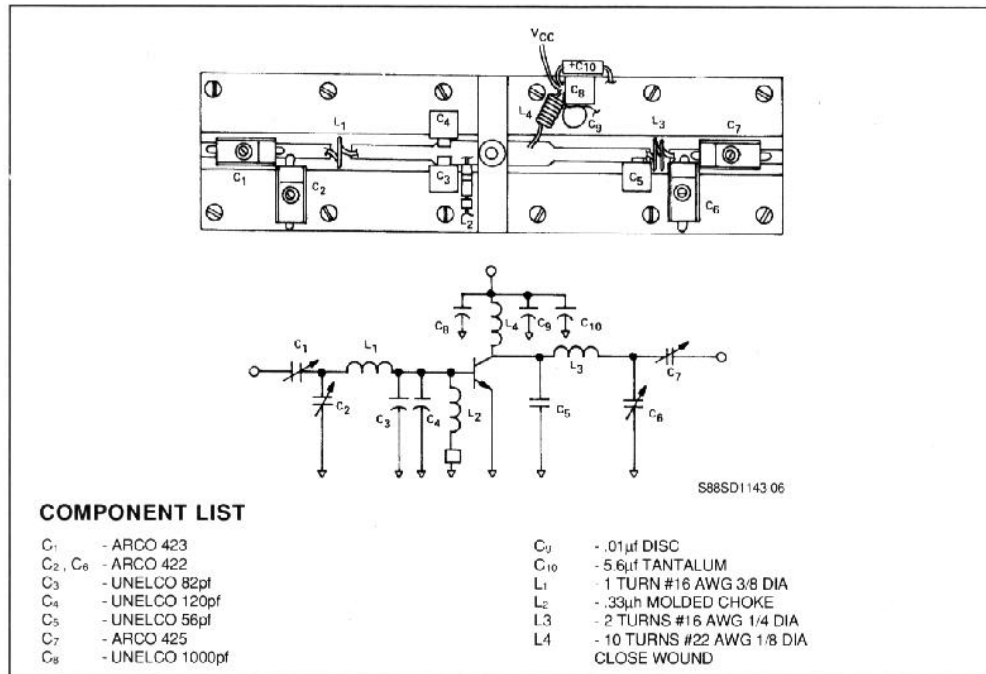
SD1143

SERIES COLLECTOR LOAD IMPEDANCE VS. FREQUENCY



S88SD1143-05

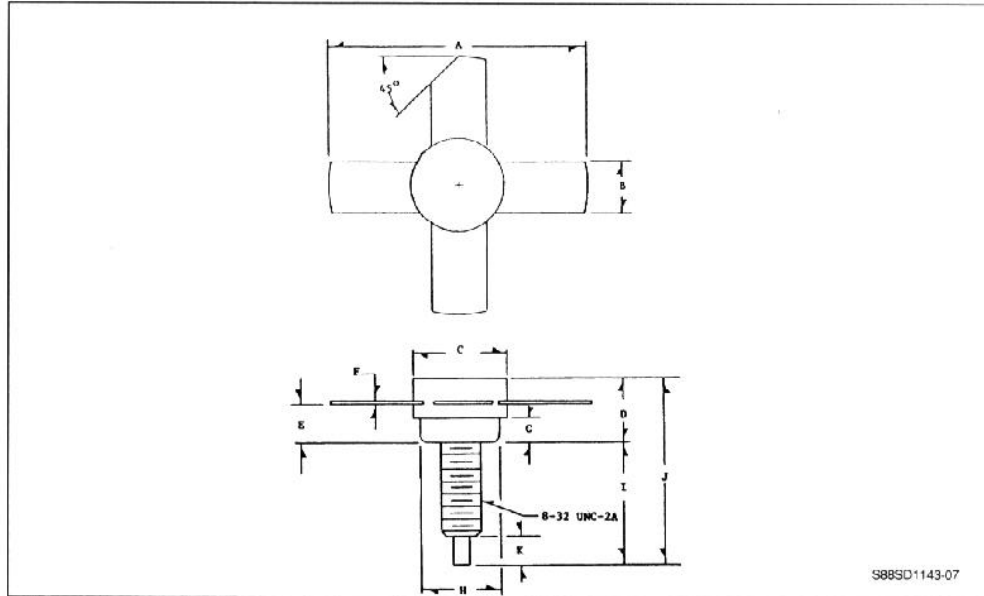
TEST CIRCUIT



S88SD1143 06

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