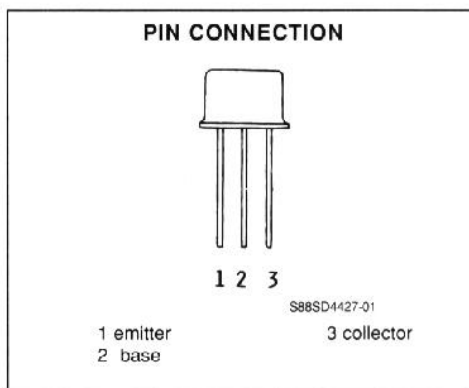
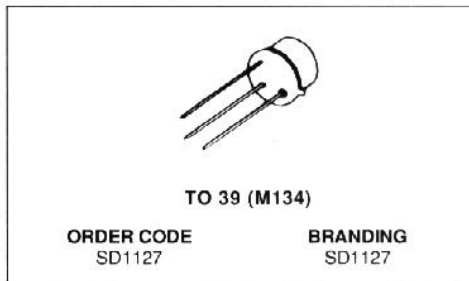


**RF & MICROWAVE TRANSISTORS**  
**130... 230MHz FM MOBILE APPLICATIONS**

- FM CLASS C TRANSISTOR
- FREQUENCY 175MHz
- VOLTAGE 12.5V
- POWER OUT 4.0W
- POWER GAIN 10.0dB
- GROUNDED EMITTER



**DESCRIPTION**

The SD1127 is a 12.5V epitaxial silicon NPN planar transistor designed primarily for VHF communications. The chip of this transistor is mounted on a beryllia pill to isolate the collector lead and ground the emitter lead to the package for high gain performance.

**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	.64	A
$P_{tot}$	Total Power Dissipation	8.0	W
$T_{stg}$	Storage Temperature	- 65 to + 200	$^{\circ}C$
$T_j$	Junction Temperature	+ 200	$^{\circ}C$

**THERMAL DATA**

$R_{th(j-c)}$	Junction-case Thermal Resistance	21.9	$^{\circ}C/W$
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**SD1127**

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

STATIC

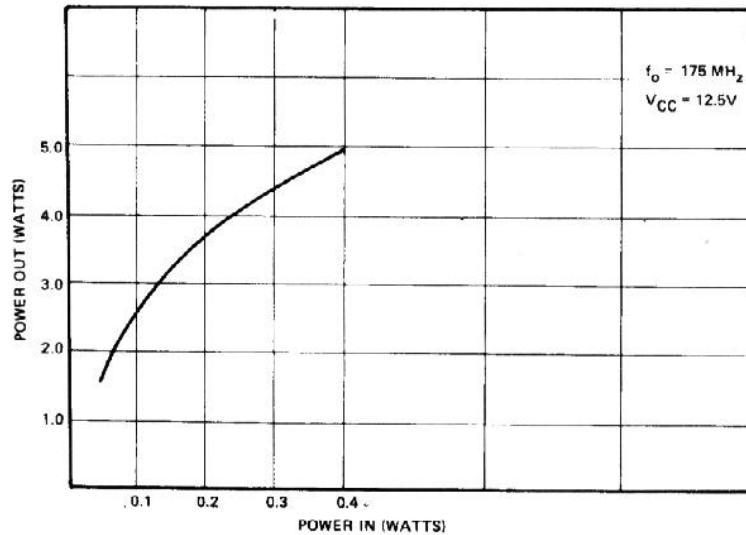
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CES}$	$I_C = 5mA$	$V_{BE} = 0$	36.0			V
$BV_{CEO}$	$I_C = 10mA$	$I_B = 0$	18.0			V
$BV_{EBO}$	$I_E = 1mA$	$I_C = 0$	4.0			V
$I_{CBO}$	$V_{CB} = 15.0V$	$I_E = 0$			.25	mA
$h_{FE}$	$V_{CE} = 5.0V$	$I_C = 50mA$	5.0			

DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$P_O$	$f = 175MHz$	$V_{CE} = 12.5V$	4.0			W
$G_P$	$f = 175MHz$	$V_{CE} = 12.5V$	10.0	12.0		dB
$C_{OB}$	$f = 1MHz$	$V_{CB} = 15.0V$			20.0	pF

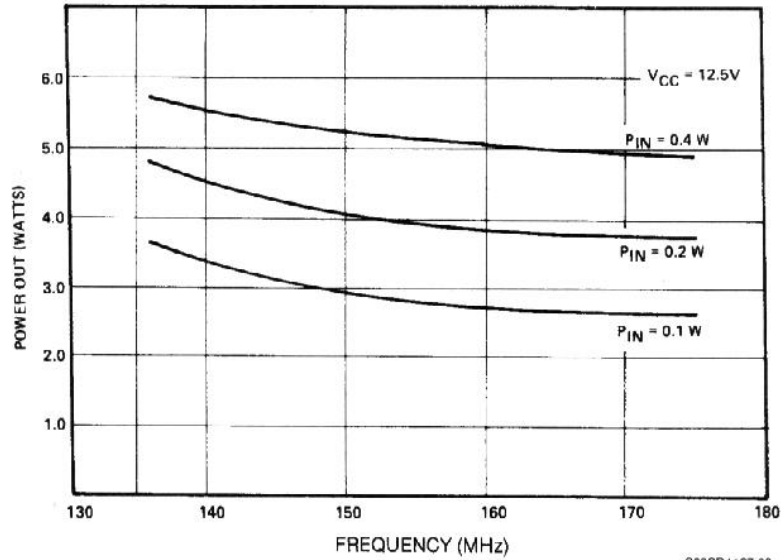
**APPLICATION INFORMATION** (typical curves)

POWER OUT VS. POWER IN.



S88SD1127-02

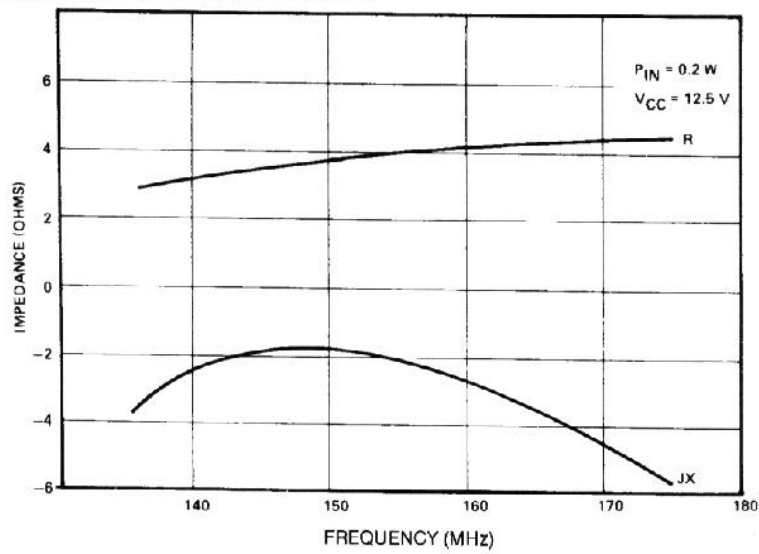
## POWER OUT VS. FREQUENCY



S88SD1127-03

## IMPEDANCE DATA (typical)

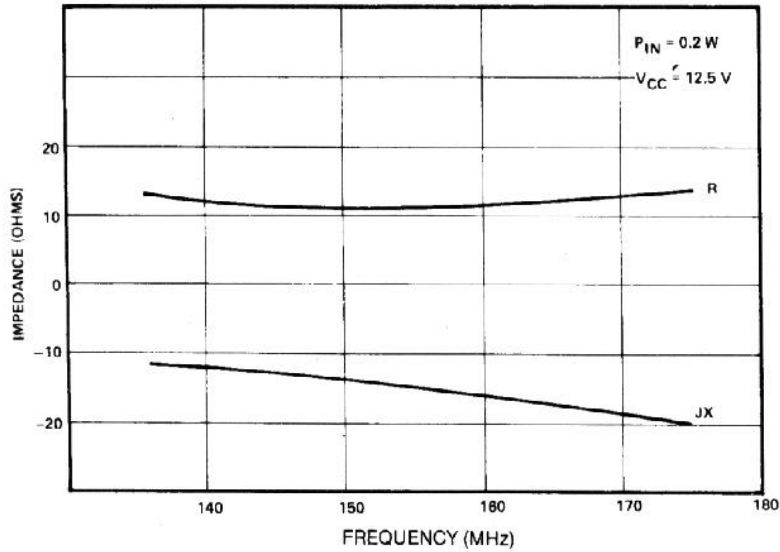
## SERIES SOURCE IMPEDANCE VS. FREQUENCY



S88SD1127-04

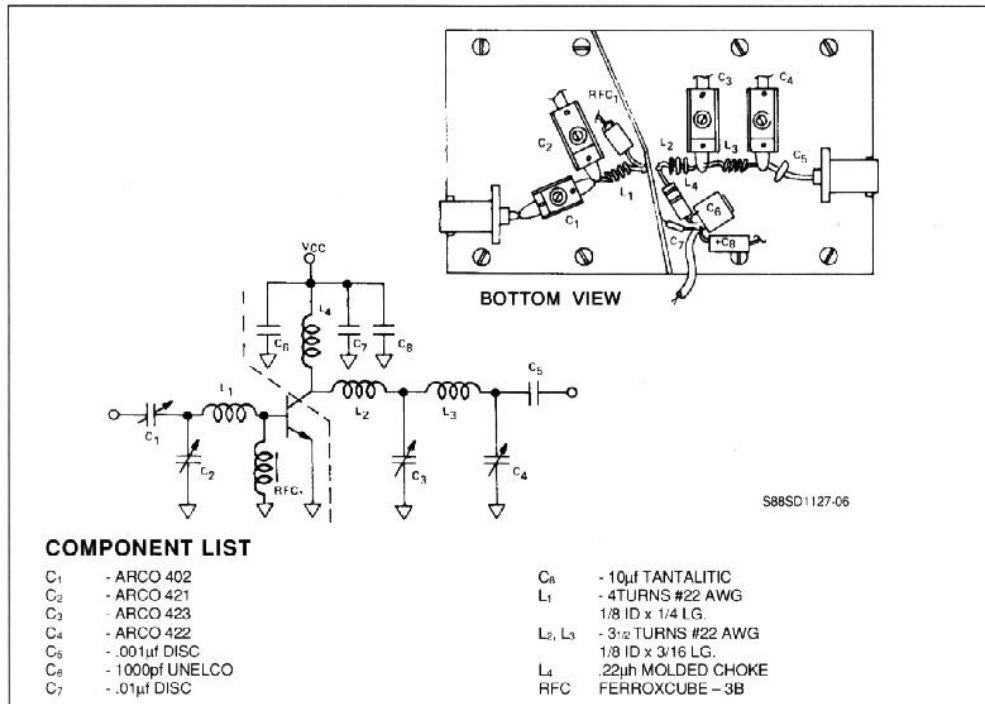
**SD1127**

**SERIES COLLECTOR LOAD VS. FREQUENCY**



S88SD1127-05

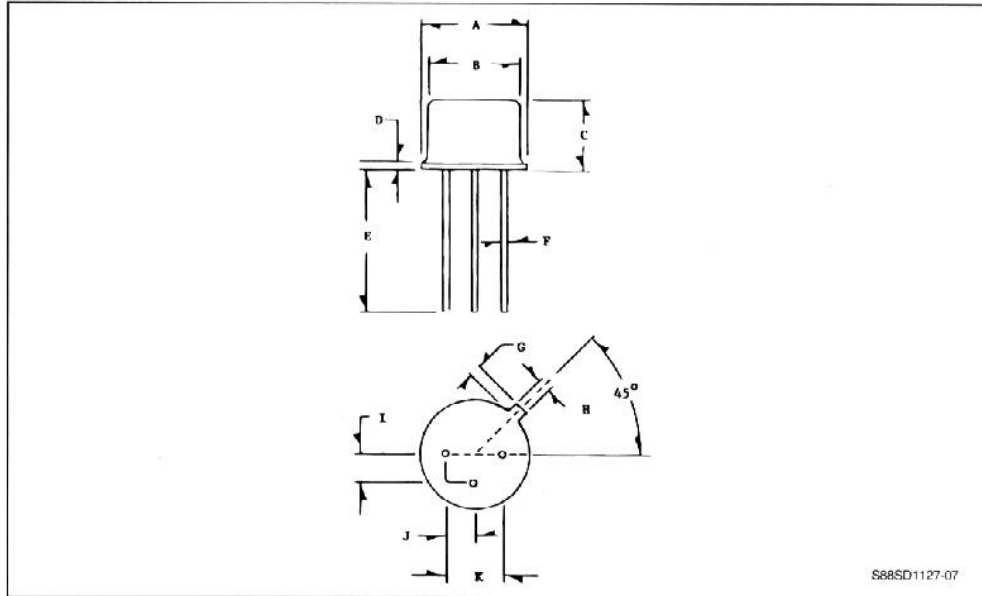
**TEST CIRCUIT**



S88SD1127-06

## PACKAGE MECHANICAL DATA

TO 39



	Minimum Inches	Maximum Inches
A	.350	.370
B	.315	.335
C	.240	.260
D	.015	.045
E	.500	
F	.016	.019

	Minimum Inches	Maximum Inches
G	.029	.040
H	.028	.034
I	.095	.105
J	.095	.105
K	.190	.210