

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

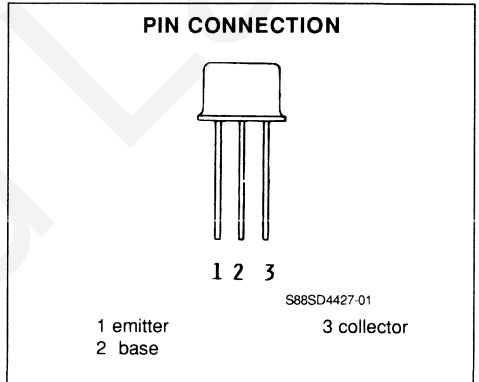
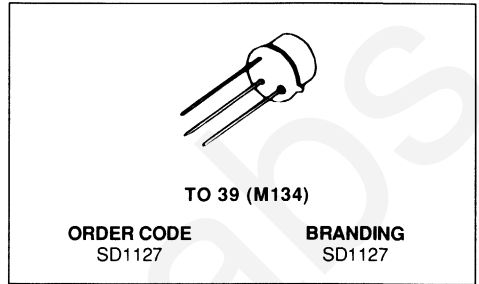
- FM CLASS C TRANSISTOR
- FREQUENCY 175MHz
- VOLTAGE 12.5V
- POWER OUT 4.0W
- POWER GAIN 10.0dB
- GROUNDED EMITTER



Island Labs

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

STATIC

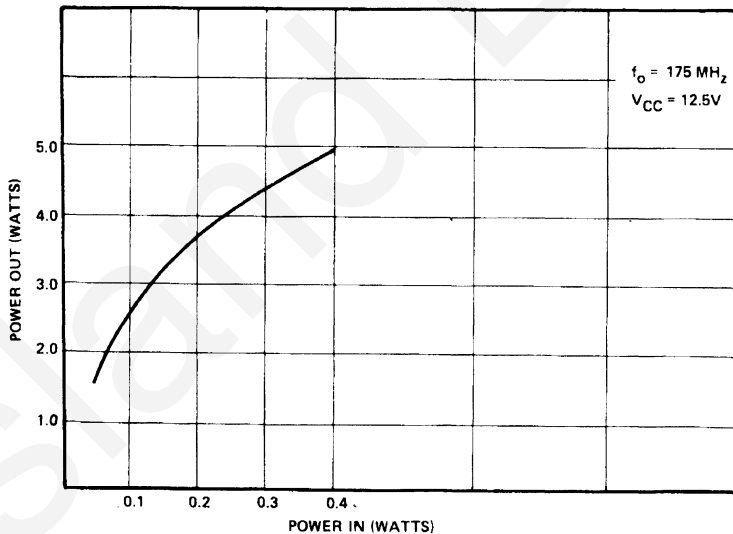
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_{\text{C}} = 5\text{mA}$	$V_{\text{BE}} = 0$	36.0			V
BV_{CEO}	$I_{\text{C}} = 10\text{mA}$	$I_{\text{B}} = 0$	18.0			V
BV_{EBO}	$I_{\text{E}} = 1\text{mA}$	$I_{\text{C}} = 0$	4.0			V
I_{CBO}	$V_{\text{CB}} = 15.0\text{V}$	$I_{\text{E}}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

DYNAMIC

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

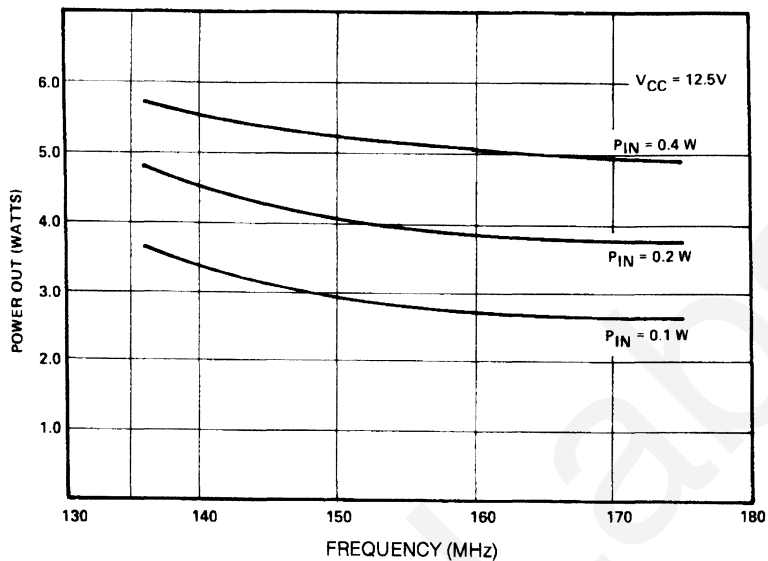
APPLICATION INFORMATION (typical curves)

POWER OUT VS. POWER IN.



S88SD1127-02

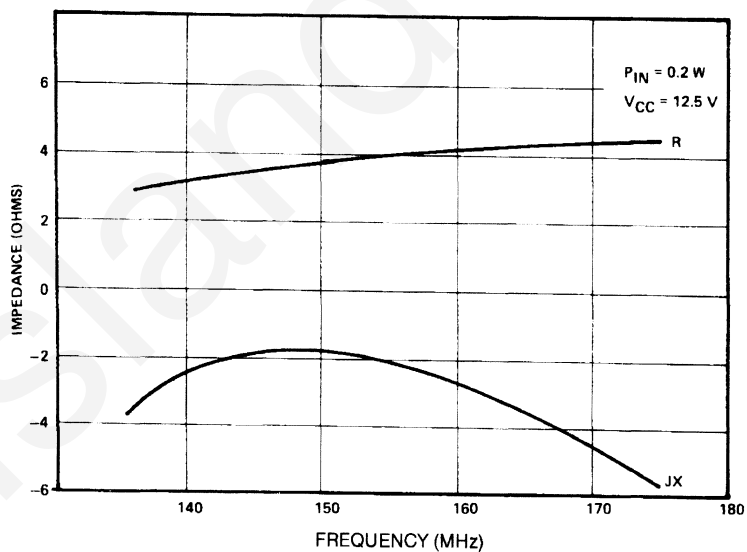
POWER OUT VS. FREQUENCY



S88SD1127-03

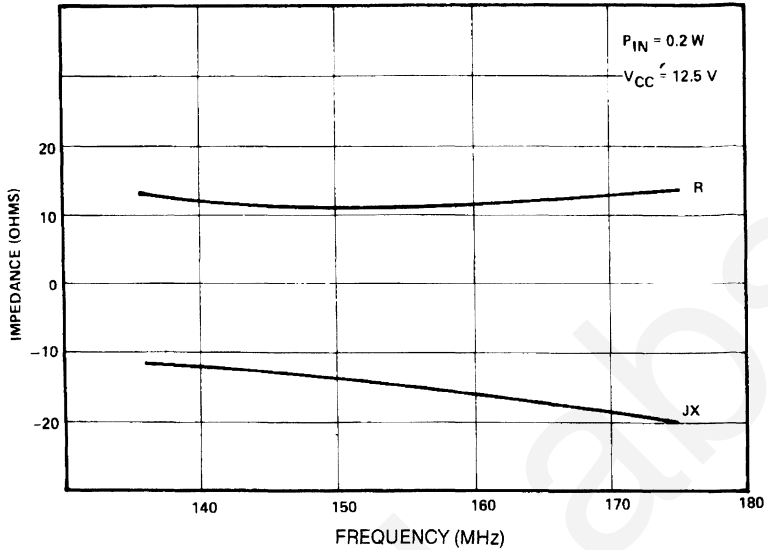
IMPEDANCE DATA (typical)

SERIES SOURCE IMPEDANCE VS. FREQUENCY



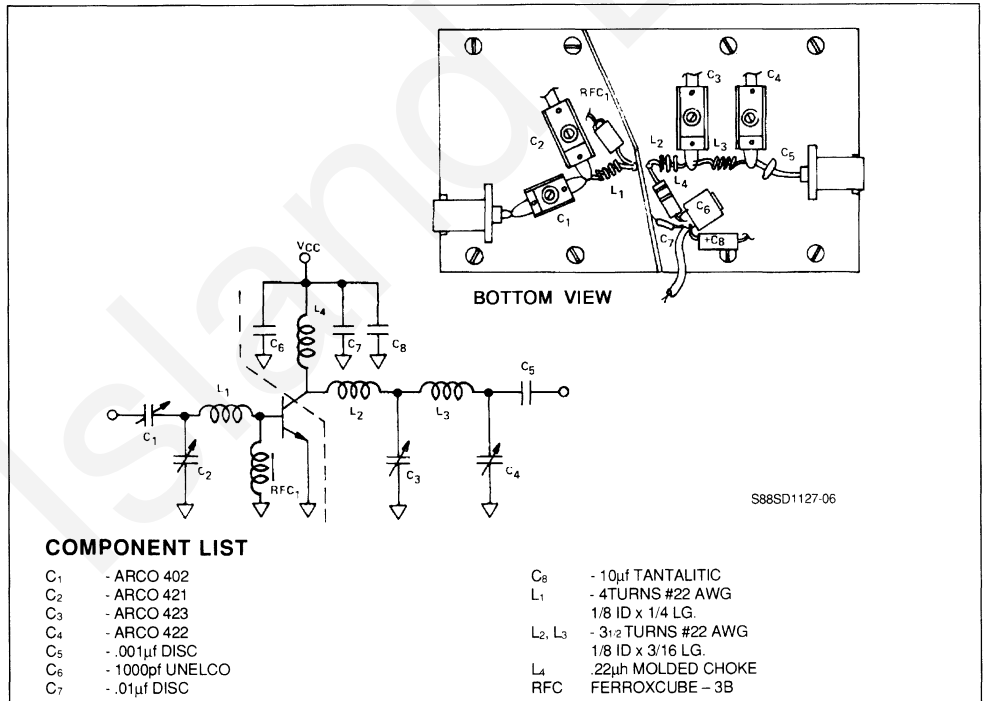
S88SD1127-04

SERIES COLLECTOR LOAD VS. FREQUENCY



S88SD1127-05

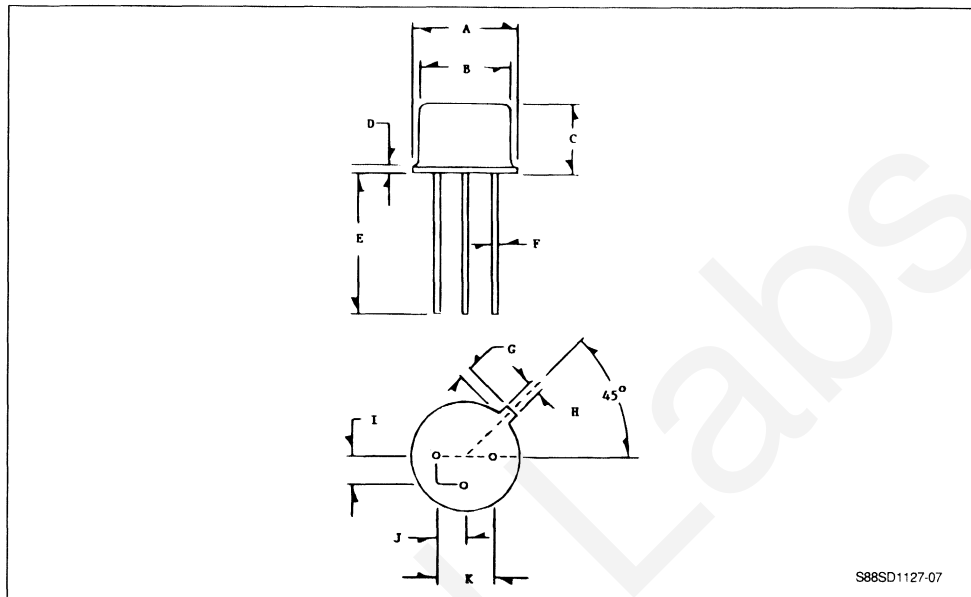
TEST CIRCUIT



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