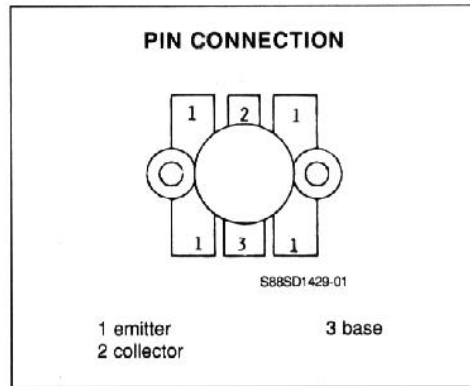
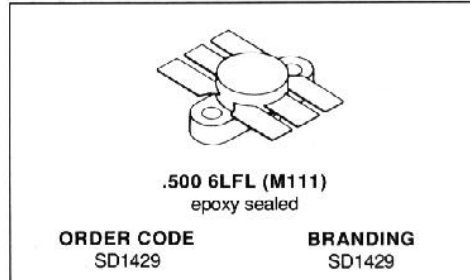


RF & MICROWAVE TRANSISTORS
450-512MHz CLASS C, MOBILE APPLICATIONS

- CLASS C TRANSISTOR
- FREQUENCY 470MHz
- VOLTAGE 12.5V
- POWER OUT 12.0W
- POWER GAIN 7.8dB
- COMMON EMITTER



DESCRIPTION

The SD1429 is a 12.5 Volt epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes "Tuned Q" technology which consists of an input matching network on the base to achieve optimum gain and broadband characteristics.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector - Base Voltage	36.0	V
V _{CE0}	Collector - Emitter Voltage	16.0	V
V _{CEs}	Collector - Emitter Voltage	36.0	V
V _{EB0}	Emitter - Base Voltage	4.0	A
I _C	Collector Current	3.4	W
P _{tot}	Total Power Dissipation	37.5	°C
T _{stg}	Storage Temperature	200	°C
T _j	Junction Temperature	- 65 to + 150	°C

THERMAL DATA

R _{th(j-c)}	Junction-case Thermal Resistance	4.6	°C/W
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SD1429

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

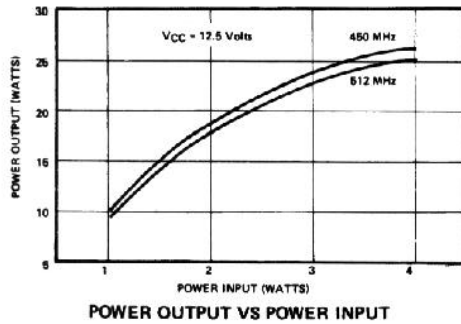
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_C = 200mA$	$V_{BE} = 0$	36.0			V
BV_{CEO}	$I_C = 200mA$	$I_B = 0$	16.0			V
BV_{EBO}	$I_E = 4mA$	$I_C = 0$	4.0			V
I_{CBO}	$V_{CB} = 15.0V$	$I_E = 0$			2.0	mA
h_{FE}	$V_{CE} = 5.0V$	$I_C = 500mA$	20			

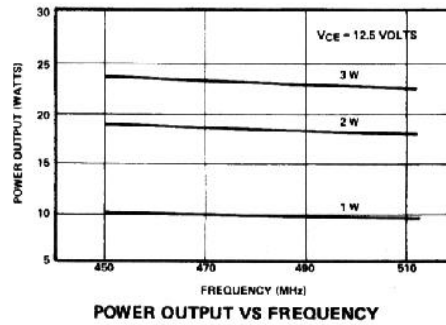
DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_O	$f = 470MHz$	$V_{CE} = 12.5V$	12.0			W
G_P	$f = 470MHz$	$V_{CE} = 12.5V$	7.8			dB
C_{OB}	$f = 1MHz$	$V_{CB} = 12.0V$			50.0	pF

APPLICATION INFORMATION (typical curves)

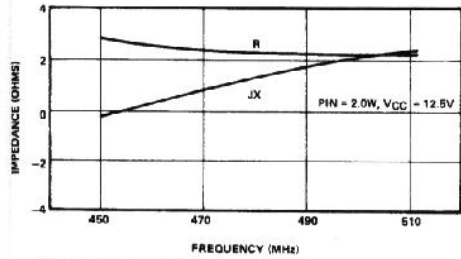


S88SD1429-02



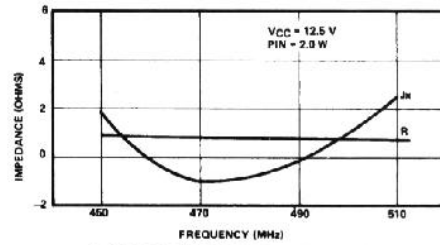
S88SD1429-03

IMPEDANCE INFORMATION



COLLECTOR LOAD IMPEDANCE VS FREQUENCY

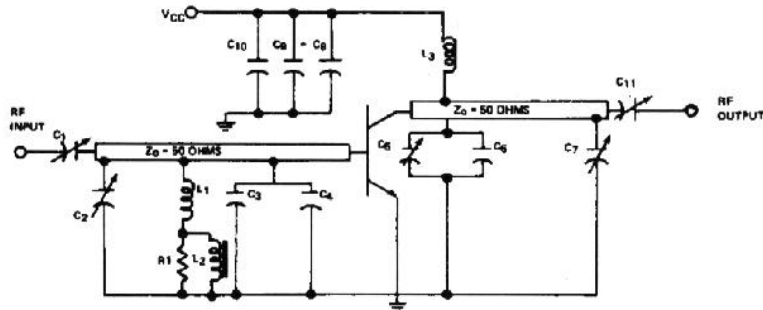
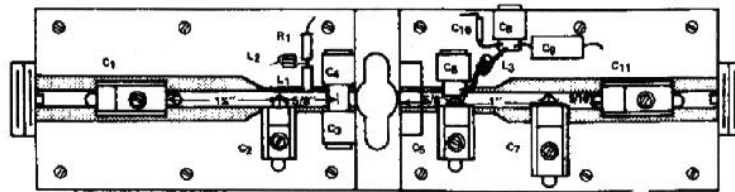
S88SD1429-04



SOURCE IMPEDANCE VS FREQUENCY

S88SD1429-05

TEST CIRCUIT



S88SD1429-06

COMPONENT LIST

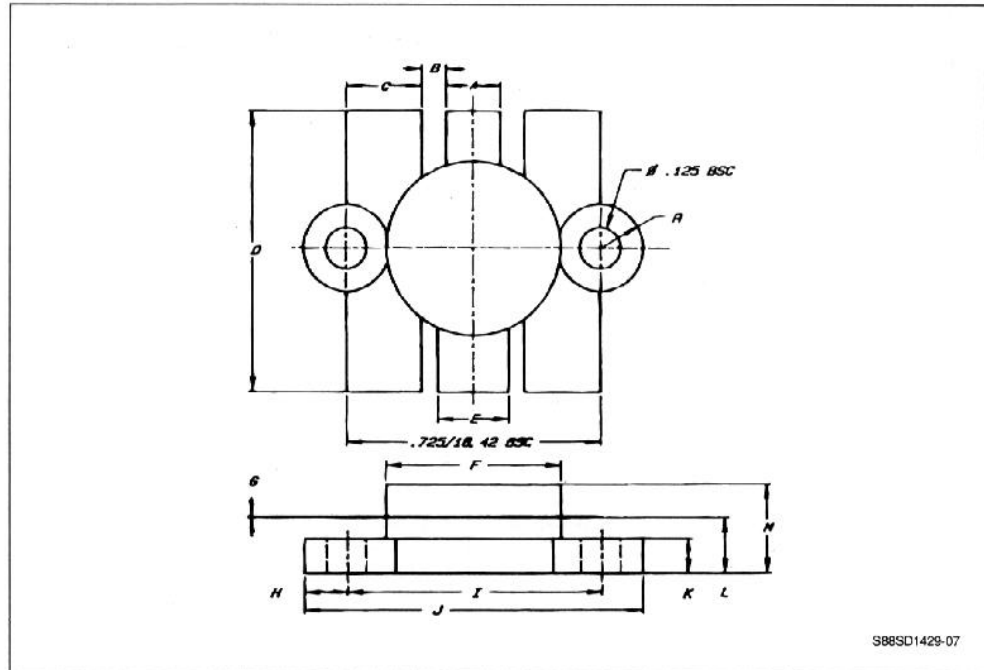
C1, C11 4-40pF, ARCO 422
 C2, 0.9-7pF, ARCO 400
 C3, C4, 20pF, UNELCO
 C5, 1.5-20pF, ARCO 402
 C6, 15pF, UNELCO
 C7, 2-25pF, ARCO421
 C8, 1000pF, UNELCO
 C9, 10μF, ELECTROLYTIC, 3EVDC

C10, 0.47μF, ERIE RED CAP
 L1, 0.10μH, MOLDED CHOKE
 L2, 6 TURNS# 28AWG THRU FERROCUBE SLEEVE # 3B1
 L3, 8 TURNS, # 20AWG, 0.20ID
 R1, 56 Ω, 1/4 WATT
 Z0, 50 Ω LINE
 BOARD MATERIAL - DOUBLE SIDED
 COPPER 1/16"THK, 2M-K-6098

SD1429

PACKAGE MECHANICAL DATA

.500 6LFL



S88SD1429-07

	Minimum Inches/mm	Maximum Inches/mm
A	.150/3.43	.160/4.06
B	.045/1.14 BSC	
C	.210/5.33	.220/5.59
D	.835/21.21	.865/21.97
E	.200/5.08	.210/5.33
F	.490/12.45	.510/12.95
G	.002/0.05	.007/0.18

	Minimum Inches/mm	Maximum Inches/mm
H	.125/3.18 BSC	
I	.720/18.29	.730/18.54
J	.970/24.64	.980/24.89
K	.095/2.41	.105/2.67
L	.150/3.81	.170/4.32
M		.280/7.11