RF Products
Microsemi
Progress Powered by Technology
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SD1132-5

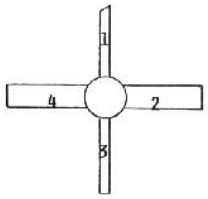
RF & MICROWAVE TRANSISTORS
450-512MHz CLASS C MOBILE APPLICATIONS

- CLASS C TRANSISTOR
- FREQUENCY 470MHz
- VOLTAGE 12.5V
- POWER OUT 0.6W
- POWER GAIN 13.0dB
- COMMON EMITTER

X0 72 (M108)
epoxy sealed

ORDER CODE	BRANDING
SD1132-05	1132-5

PIN CONNECTION



1 collector
2 emitter
3 base
4 emitter

DESCRIPTION

The SD1132-5 is a 12.5V epitaxial silicon NPN planar transistor designed primarly for UHF predriver applications. This device uses nichrome aluminium metallization to achieve infinite VSWR at rated operating conditions.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°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	0.7	A
P_{tot}	Total Power Dissipation	2.5	W
T_{stg}	Storage Temperature	– 65 to + 150	°C
T_j	Junction Temperature	+ 200	°C

THERMAL DATA

$R_{th(j-c)}$	Junction-case Thermal Resistance	70.0	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C)

STATIC

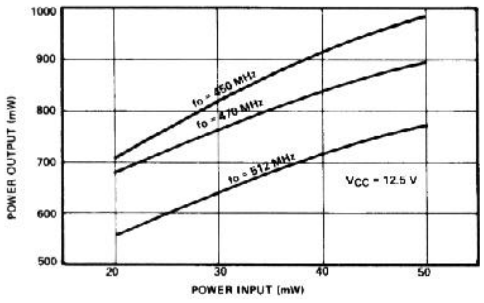
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	I_C = 10mA	V_{BE} = 0	36.0			V
BV_{CEO}	I_C = 10mA	I_B = 0	18.0			V
BV_{EBO}	I_E = 5mA	I_C = 0	4.0			V
I_{CBO}	V_{CB} = 12.5V	I_E = 0			1.0	mA
h_{FE}	V_{CE} = 5.0V	I_C = 150A	20.0			

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_O	f = 470MHz	V_{CE} = 12.5V		0.6			W
G_P	f = 470MHz	V_{CE} = 12.5V		13.0			dB
C_{OB}	f = 1MHz	V_{CB} = 12.5V	I_E = 0			4.0	pF

APPLICATION INFORMATION (typical curves)

POWER OUT vs POWER IN



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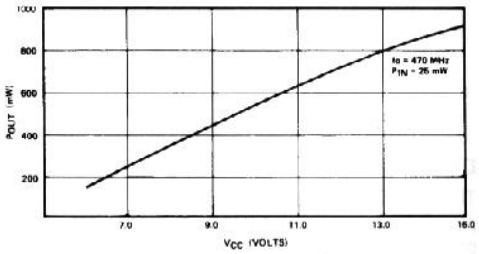
POWER OUT vs VCC



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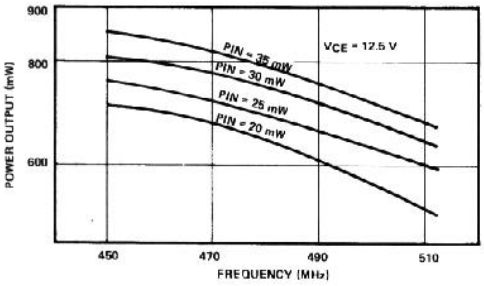
POWER OUT vs FREQUENCY



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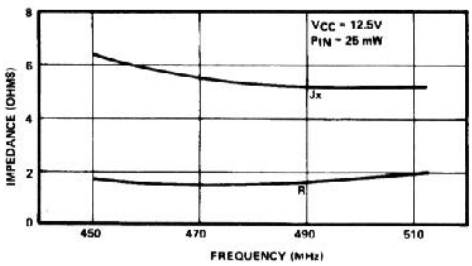
IMPEDANCE DATA (typical)

$Z_S = 1.5 + j\ 0.5.5\Omega$
$Z_{CL} = 14 + j\ .43\Omega$

F = 470MHz
V_{CE} = 12.5V
P_I = 0.025W

SOURCE IMPEDANCE vs FREQUENCY



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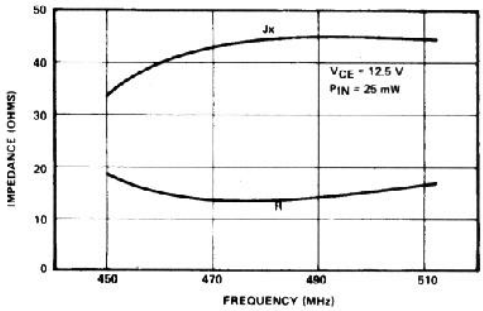
COLLECTOR LOAD IMPEDANCE vs FREQUENCY



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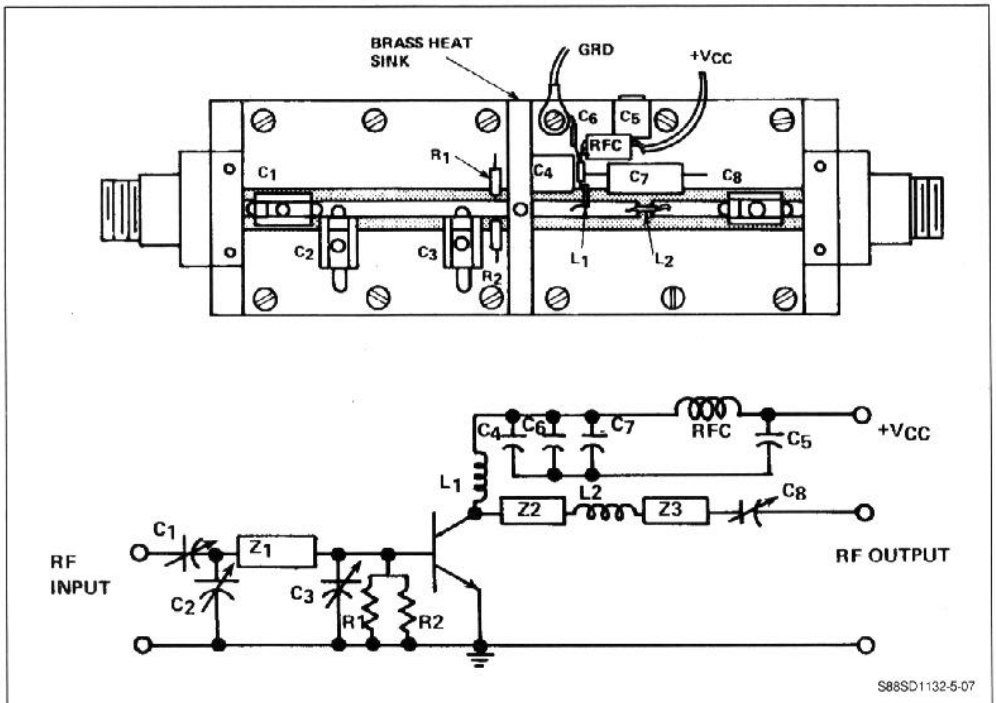
TEST CIRCUIT (450-512MHz)



COMPONENT LIST

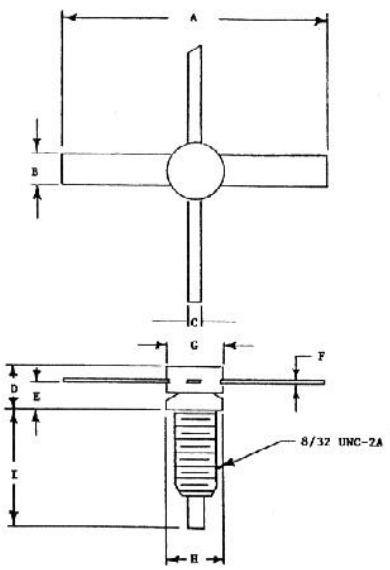
C_1, C_2, C_3	0.9-7pf ARCO 400
C_4, C_5	-1000pf UNELCO
C_6,	01f CERAMIC DISK
C_7	10f 50V ELECTROLYTIC
C_8	8-60pf ARCO 404

L_1, L_2	1 TURN, #20 AWG, .125 ID
R_1, R_2	470, WATT
Z_1	50, 1.25" x .1875
Z_2, Z_3	50, .50 x .1875

BOARD MATERIAL DOUBLE SIDED COPPER, .0625 THK, 3M K 6098 MOUNTED ON .375 BRASS PLATES

PACKAGE MECHANICAL DATA

X072



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	Minimum Inches	Maximum Inches
A	.890	
B	.120	.130
C	.027	.033
D		.195
E	.098	.112
F	.003	.007
G	.201	.207
H	.201	.207
I	.425	.465