

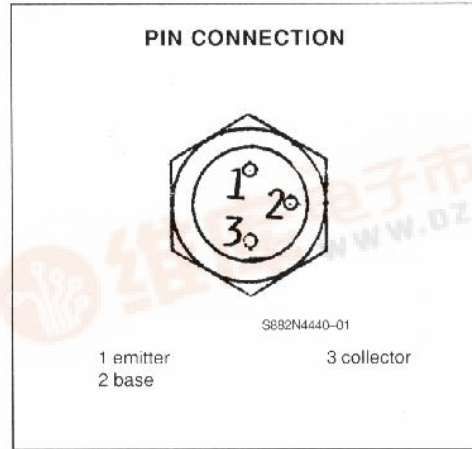
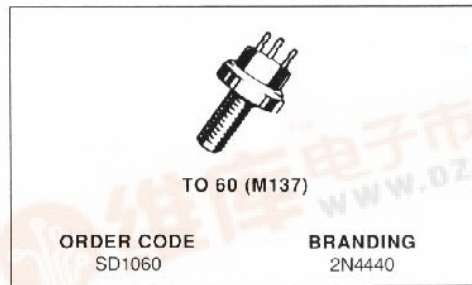
Microsemi
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2N4440

RF & MICROWAVE TRANSISTORS
WIDEBAND VHF-UHF CLASS C

- CLASS C TRANSISTOR
- FREQUENCY 400MHz
- VOLTAGE 28V
- POWER OUT 5.0W
- POWER GAIN 4.7dB
- EFFICIENCY 45%



DESCRIPTION

This type of silicon epitaxial NPN planar high frequency transistor employs a multi emitter electrode design. This feature together with a heavily diffused base matrix located between the individual emitters results in high RF current handling capability, high power gain, low base resistance and low output capacitance. These transistors are intended for Class A, B, or C amplifier, oscillator or frequency multiplier circuits and are specifically designed for operation in the VHF-UHF region.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector - Base Voltage	65.0	V
V_{CEO}	Collector - Emitter Voltage	40.0	V
V_{EBO}	Emitter - Base Voltage	4.0	V
I_C	Collector Current	1.5	A
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	15.1	$^{\circ}C/W$
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March 1989

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

STATIC

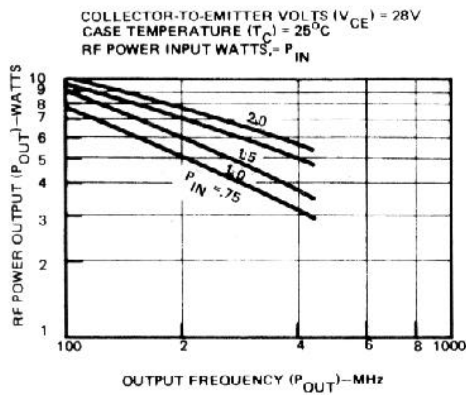
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 100\mu\text{A}$ $I_{\text{E}} = 0$	65			V
BV_{CEO}	$I_{\text{C}} = 200\text{mA}$ $I_{\text{B}} = 0$	40.0			V
BV_{EBO}	$I_{\text{E}} = 1\text{mA}$ $I_{\text{C}} = 0$	4.0			V

DYNAMIC

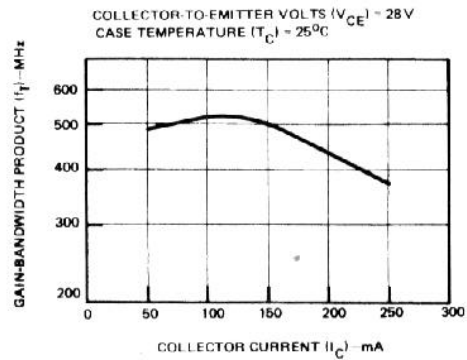
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{O}	$f = 400\text{MHz}$ $V_{\text{CE}} = 28\text{V}$	5.0			W
G_{P}	$f = 400\text{MHz}$ $V_{\text{CE}} = 28\text{V}$	4.7			dB
η_{C}	$f = 400\text{MHz}$ $V_{\text{CE}} = 28\text{V}$	45.0			%
C_{OB}	$f = 1.0\text{MHz}$ $V_{\text{CB}} = 30\text{V}$ $I_{\text{E}} = 0$			10.0	pF

APPLICATION INFORMATION (typical curves)

POWER OUTPUT VS FREQUENCY

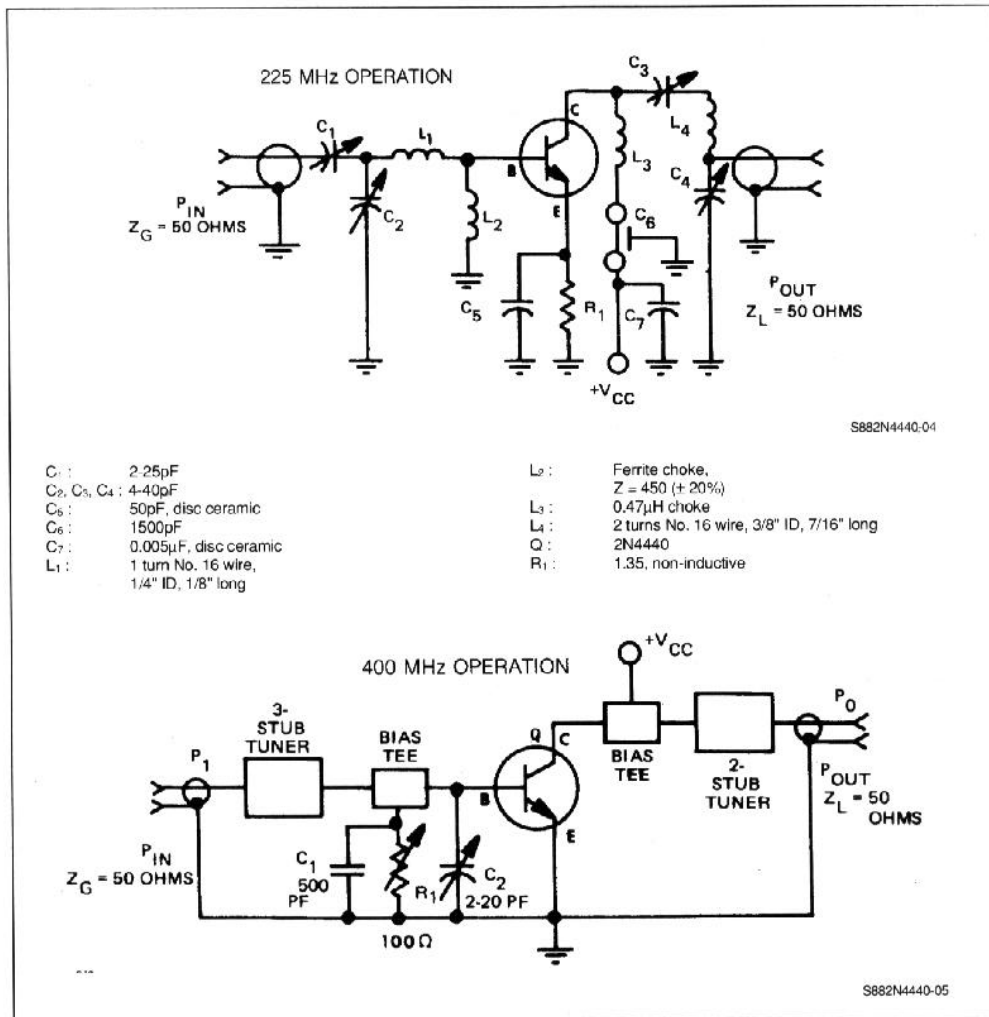


5882N4440-02



5882N4440-03

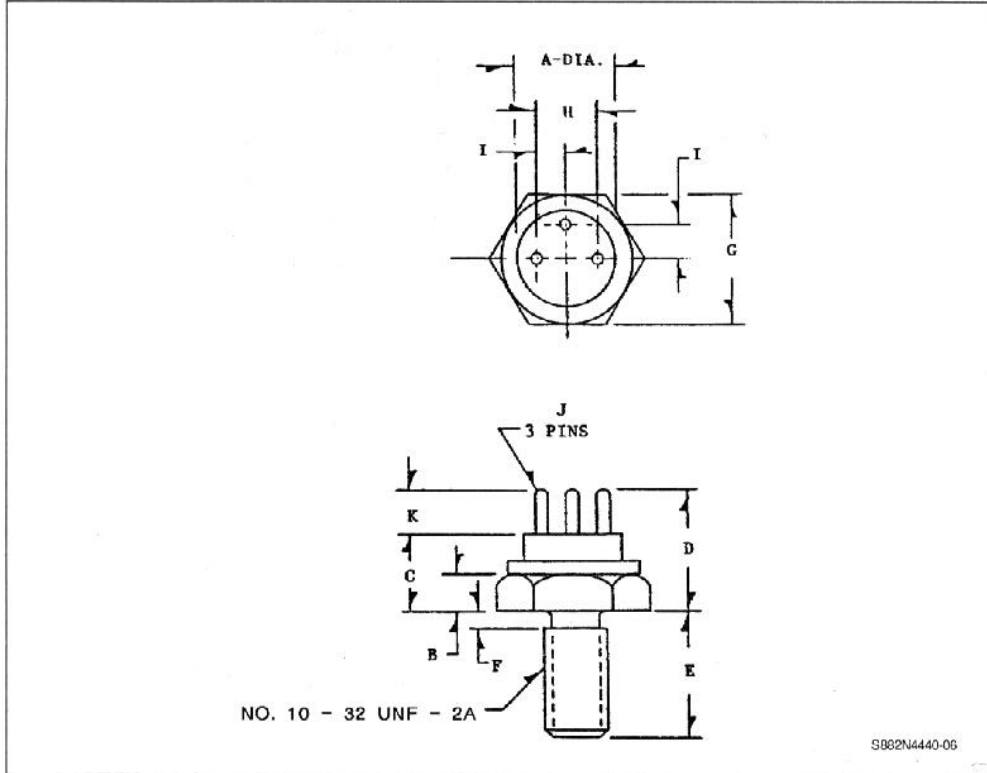
TEST CIRCUIT



2N4440

PACKAGE MECHANICAL DATA

TO 60



	Minimum Inches	Maximum Inches
A	.320	.340
B	.110	.135
C	.245	.300
D	.400	.450
E	.420	.455
E	.140	.160

	Minimum Inches	Maximum Inches
F		.078
G	.420	.440
H	.190	.210
I	.095	.105
J	.030	.046
K	.140	.160