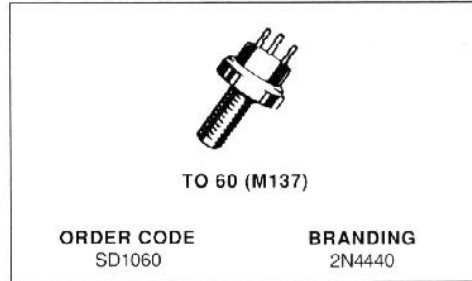


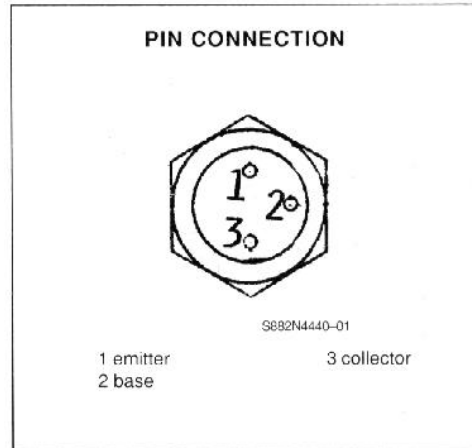
**RF & MICROWAVE TRANSISTORS  
 WIDEBAND VHF-UHF CLASS C**

- 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<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector - Base Voltage	65.0	V
V <sub>CEO</sub>	Collector - Emitter Voltage	40.0	V
V <sub>EBO</sub>	Emitter - Base Voltage	4.0	V
I <sub>C</sub>	Collector Current	1.5	A
T <sub>stg</sub>	Storage Temperature	- 65 to + 200	°C
T <sub>j</sub>	Junction Temperature	+ 200	°C

**THERMAL DATA**

R <sub>th(j-c)</sub>	Junction-case Thermal Resistance	15.1	°C/W
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## 2N4440

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

#### STATIC

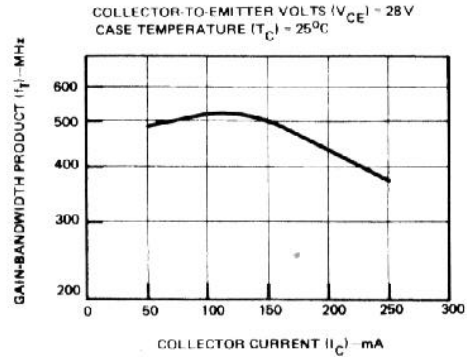
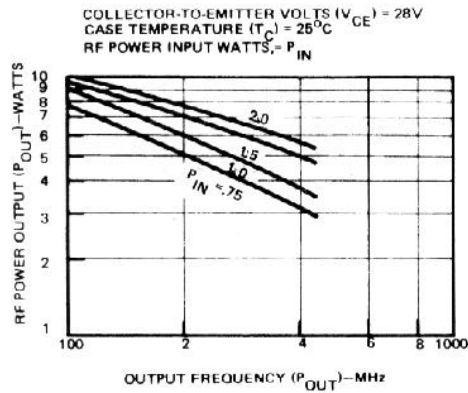
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{\text{CBO}}$	$I_{\text{C}} = 100\mu\text{A}$	$I_{\text{E}} = 0$	65			V
$BV_{\text{CEO}}$	$I_{\text{C}} = 200\text{mA}$	$I_{\text{B}} = 0$	40.0			V
$BV_{\text{EBO}}$	$I_{\text{E}} = 1\text{mA}$	$I_{\text{C}} = 0$	4.0			V

#### DYNAMIC

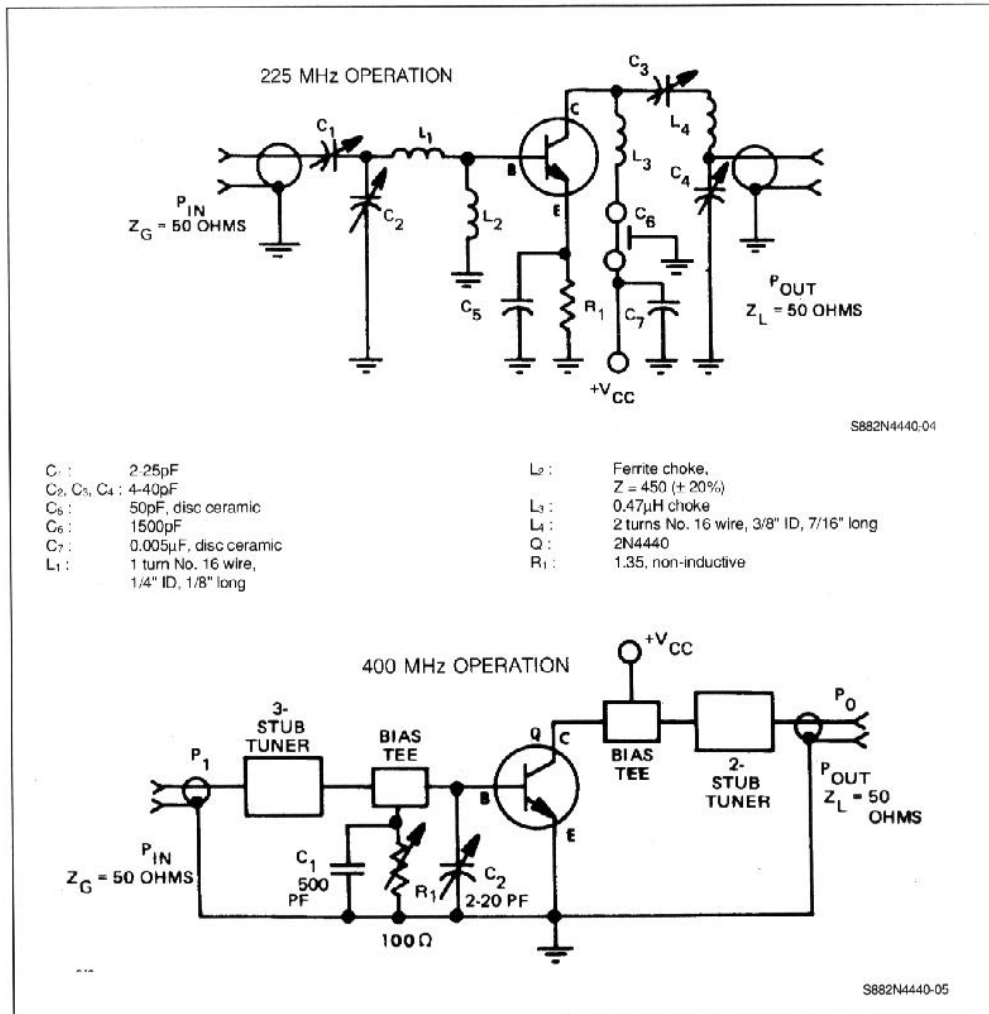
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$P_{\text{O}}$	$f = 400\text{MHz}$	$V_{\text{CE}} = 28\text{V}$	5.0			W
$G_{\text{P}}$	$f = 400\text{MHz}$	$V_{\text{CE}} = 28\text{V}$	4.7			dB
$\eta_{\text{C}}$	$f = 400\text{MHz}$	$V_{\text{CE}} = 28\text{V}$	45.0			%
$C_{\text{OB}}$	$f = 1.0\text{MHz}$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

### APPLICATION INFORMATION (typical curves)

#### POWER OUTPUT VS FREQUENCY



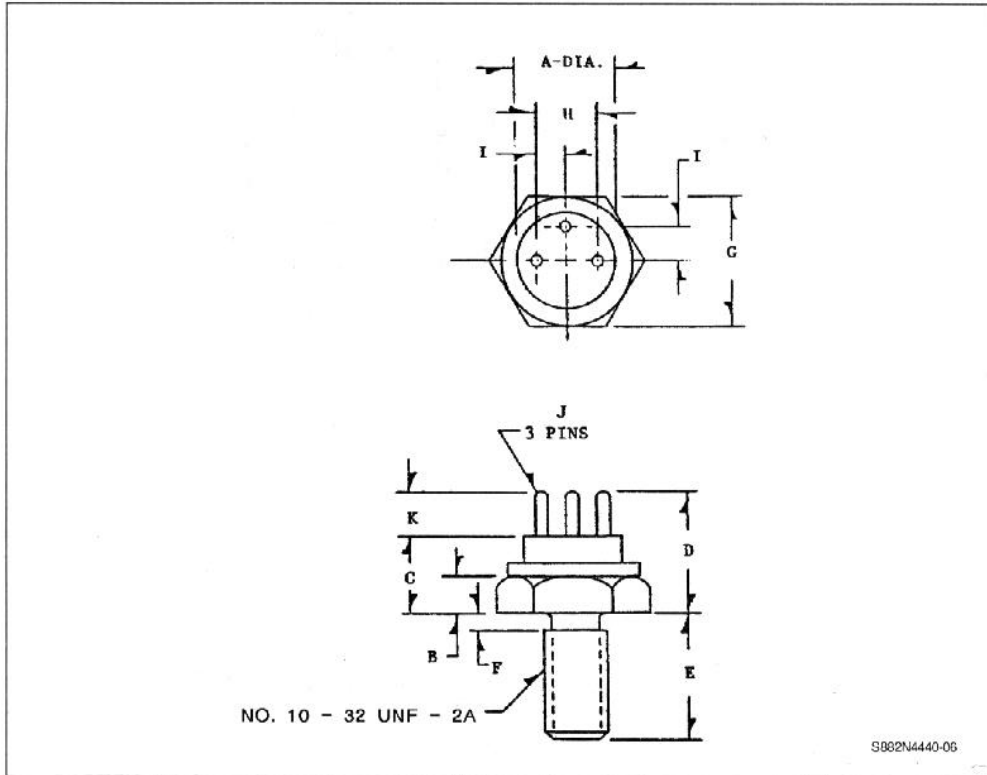
## TEST CIRCUIT



**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