

**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%



TO 60 (M137)

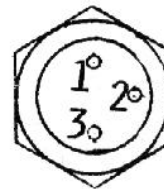
ORDER CODE
 SD1060

BRANDING
 2N4440

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.

PIN CONNECTION



S692N4440-01

1 emitter
 2 base

3 collector

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

$R_{\theta(j-c)}$	Junction-case Thermal Resistance	15.1	$^{\circ}C/W$
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2N4440

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

STATIC

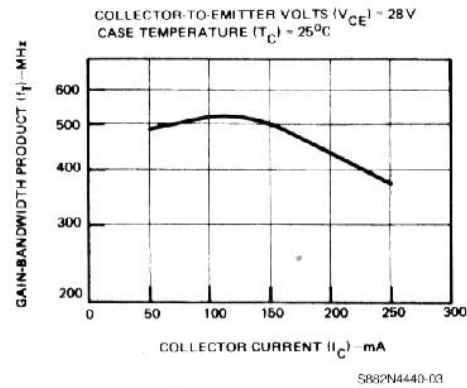
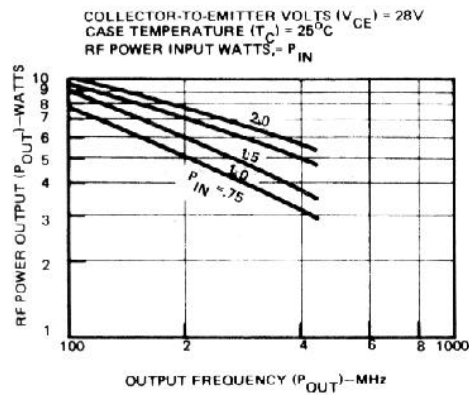
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CE0}	$I_C = 100\mu\text{A}$ $I_E = 0$	65			V
BV_{CE0}	$I_C = 200\text{mA}$ $I_B = 0$	40.0			V
BV_{EBO}	$I_E = 1\text{mA}$ $I_C = 0$	4.0			V

DYNAMIC

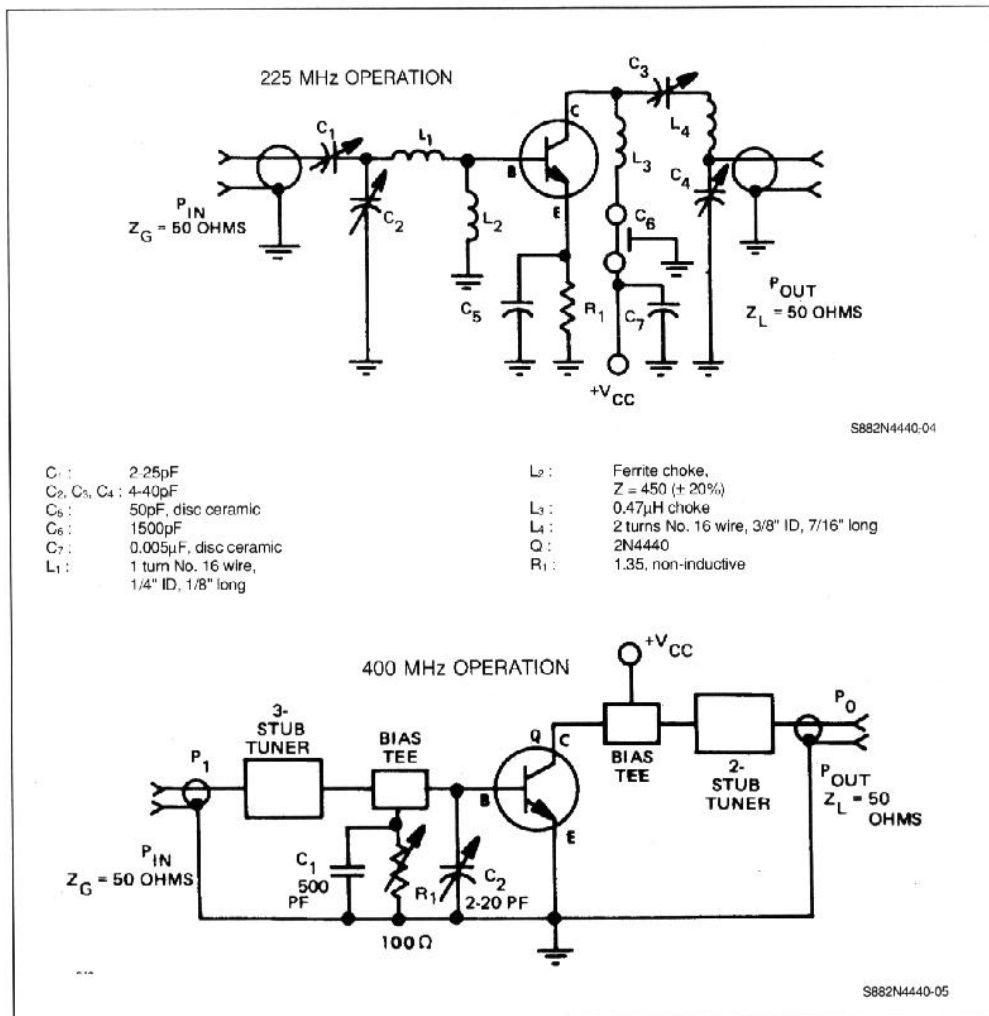
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_O	$f = 400\text{MHz}$ $V_{CE} = 28\text{V}$	5.0			W
G_P	$f = 400\text{MHz}$ $V_{CE} = 28\text{V}$	4.7			dB
η_C	$f = 400\text{MHz}$ $V_{CE} = 28\text{V}$	45.0			%
C_{OB}	$f = 1.0\text{MHz}$ $V_{CB} = 30\text{V}$ $I_E = 0$			10.0	pF

APPLICATION INFORMATION (typical curves)

POWER OUTPUT VS FREQUENCY



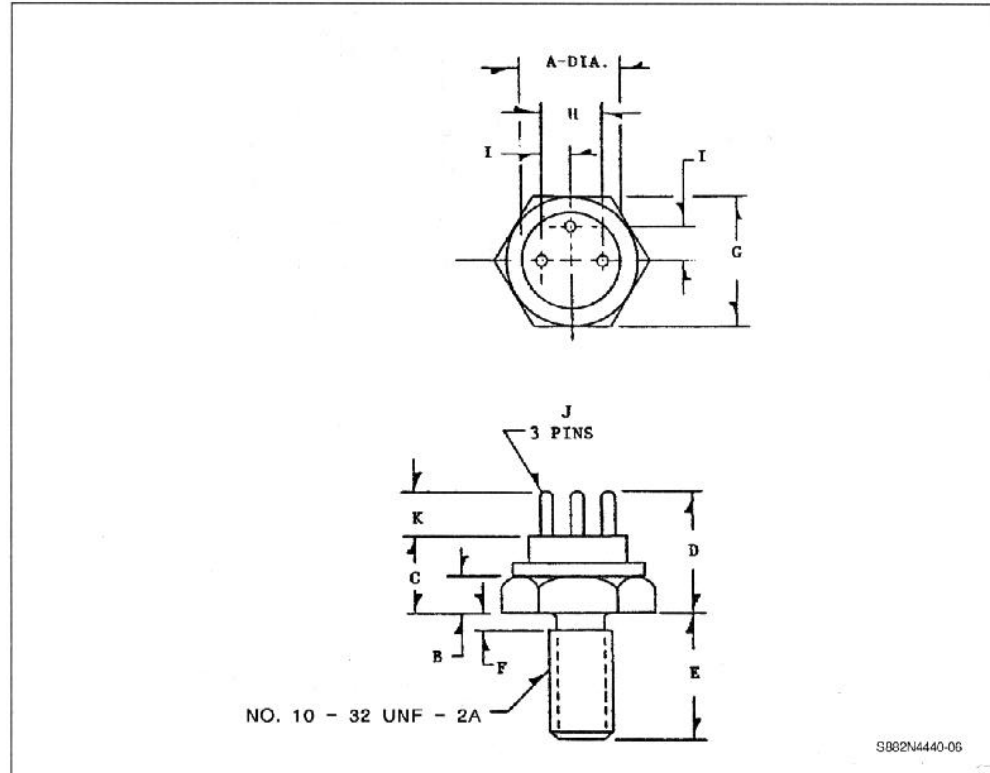
TEST CIRCUIT



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