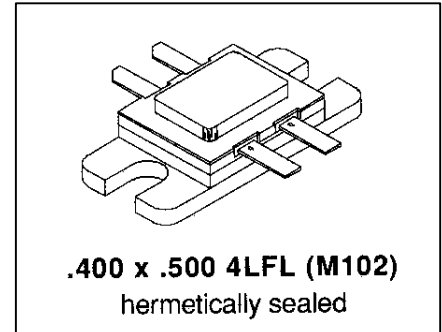


MS2200

RF AND MICROWAVE TRANSISTORS UHF PULSED APPLICATIONS

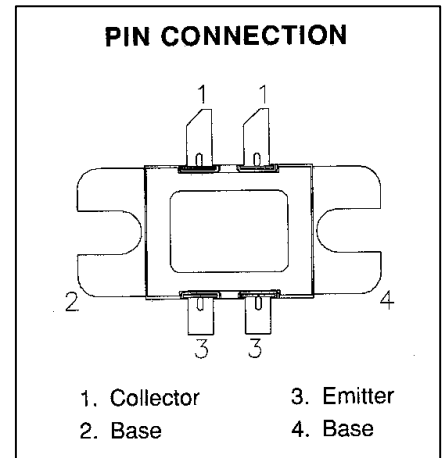
Features

- 500 Watts @ 250 μ Sec Pulse Width, 10% Duty Cycle
- Refractory Gold Metallization
- Emitter Ballasting And Low Resistance For Reliability and Ruggedness
- Infinite VSWR Capability At Specified Operating Conditions
- Input Matched, Common Base Configuration
- Balanced Configuration



DESCRIPTION:

The MS2200 is a hermetically sealed, gold metallized silicon NPN pulse power transistor mounted in a common base balanced configuration. The MS2200 is designed for applications requiring high peak power and low duty cycles within the frequency range of 400 – 500 MHz.



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	65	V
V_{CES}	Collector-Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Device Current	43.2	A
P_{DISS}	Power Dissipation	1167	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	0.15	°C/W
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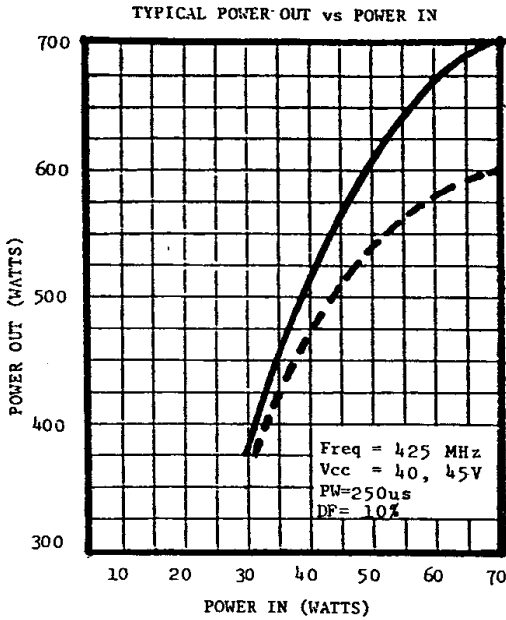
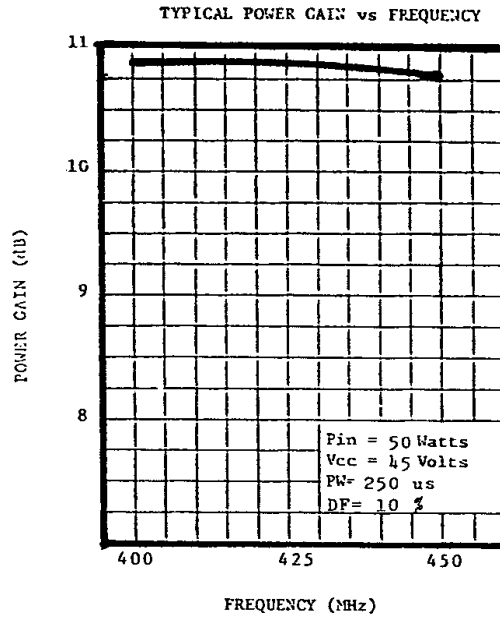
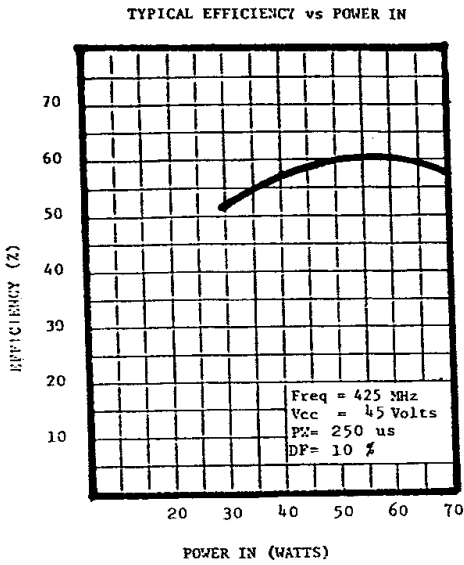
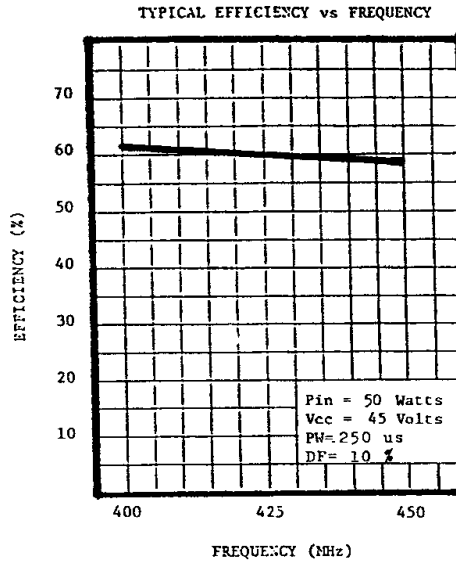
ELECTRICAL SPECIFICATIONS (T_{case} = 25 °C)
STATIC

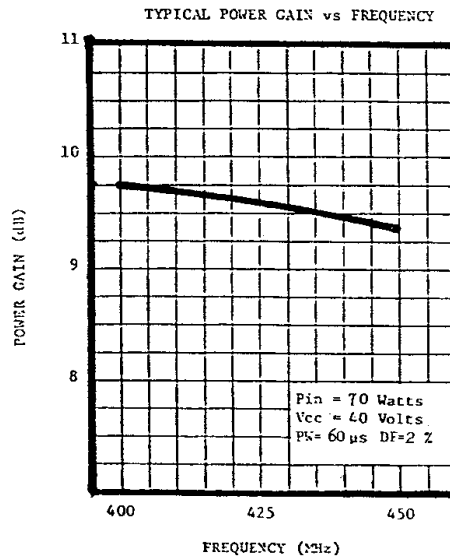
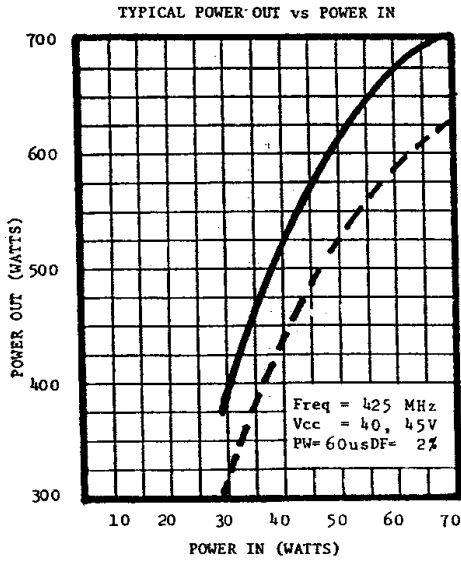
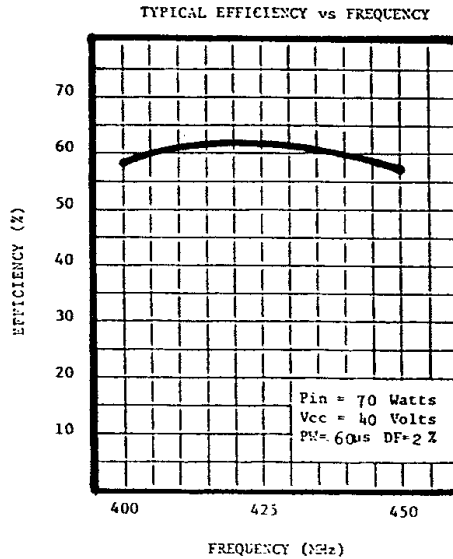
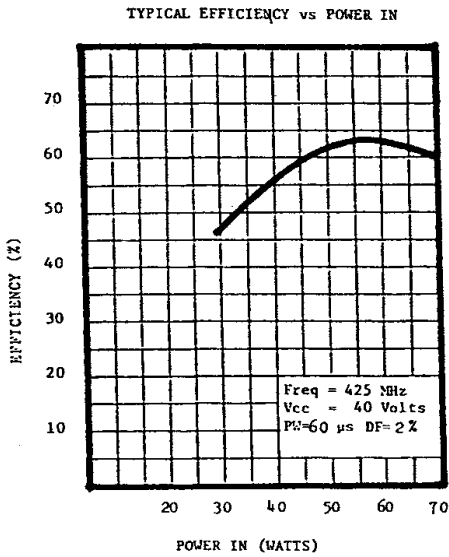
Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
BV_{CBO}	I_C = 50 mA I_E = 0 mA	65	—	—	V
BV_{CES}	I_C = 50 mA V_{BE} = 0 V	65	—	—	V
BV_{EBO}	I_E = 10 mA I_C = 0 mA	3.5	—	—	V
I_{CES}	V_{CE} = 30 V I_E = 0 mA	—	—	15	mA
h_{FE}	V_{CE} = 5 V I_C = 5 A	20	—	200	—

DYNAMIC

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
P_{OUT}	f = 425 MHz P_{IN} = 54 W V_{CE} = 40 V	500	—	—	W
G_P	f = 425 MHz P_{IN} = 54 W V_{CE} = 40 V	9.7	—	—	Db
η_C	f = 425 MHz P_{IN} = 54 W V_{CE} = 40 V	50	—	—	%

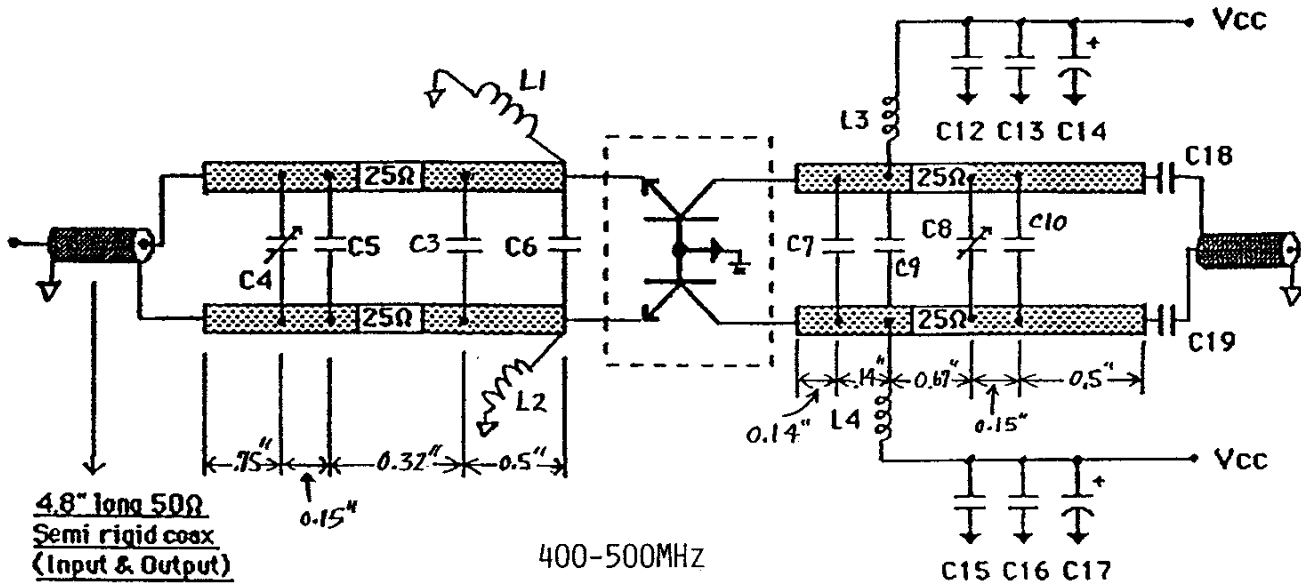
Note: Pulse Width = 250μSec, Duty Cycle = 10%
This device is suitable for use under other pulse width/duty cycle conditions.
Please contact the factory for specific applications assistance.

TYPICAL PERFORMANCE
POWER OUTPUT vs POWER INPUT

POWER GAIN vs FREQUENCY

EFFICIENCY vs POWER INPUT

EFFICIENCY vs FREQUENCY


TYPICAL PERFORMANCE (CONTINUED)
POWER OUTPUT vs POWER INPUT
POWER GAIN vs FREQUENCY

EFFICIENCY vs POWER INPUT
EFFICIENCY vs FREQUENCY


MS2200

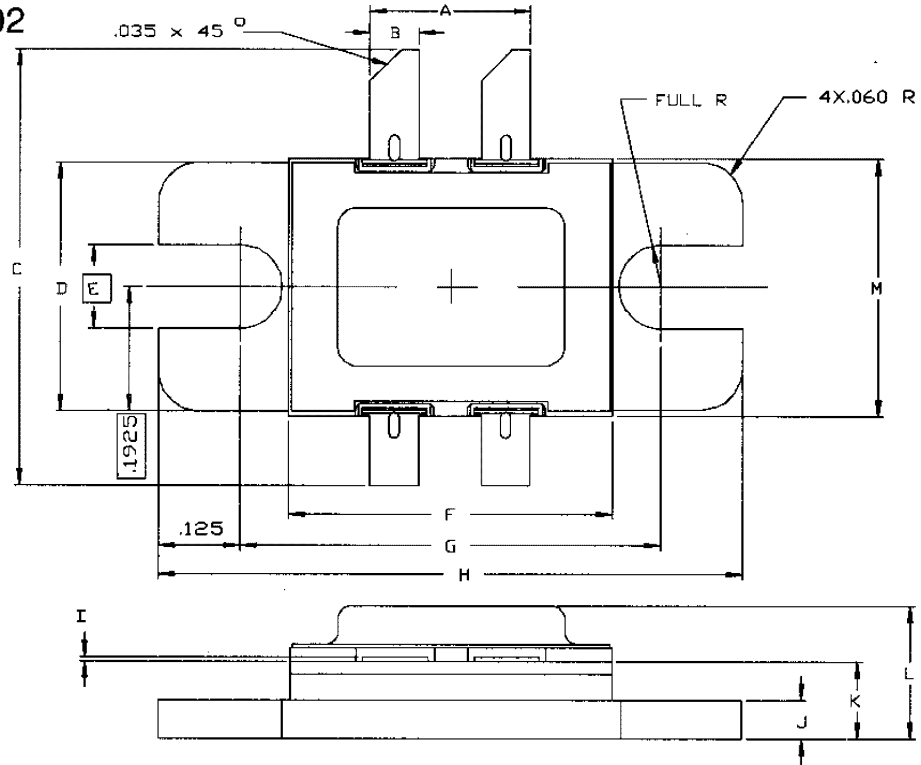
TEST CIRCUIT



MS2200

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0102



ADVANCED POWER TECHNOLOGY			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.240/6,10	.254/6,45	K	.115/2,92	.130/3,30
B	.070/1,78	.080/2,03	L	---	.230/5,84
C	.780/19,81	.820/20,83	M	.395/10,03	.407/10,34
D	.380/9,65	.390/9,91			
E	.130/3,30				
F	.495/12,57	.507/12,88			
G	.640/16,26	.655/16,64			
H	.890/22,61	.910/23,11			
I	.002/0,05	.006/0,15			
J	.058/1,47	.065/1,65			