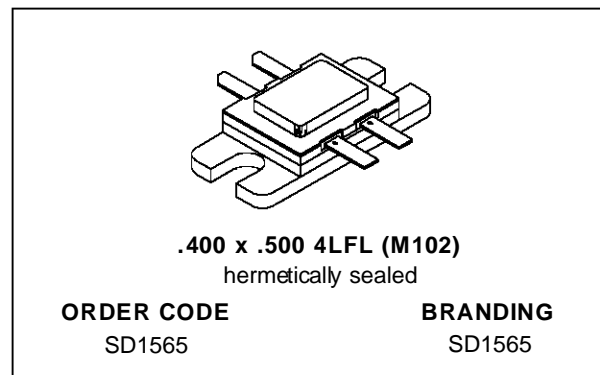
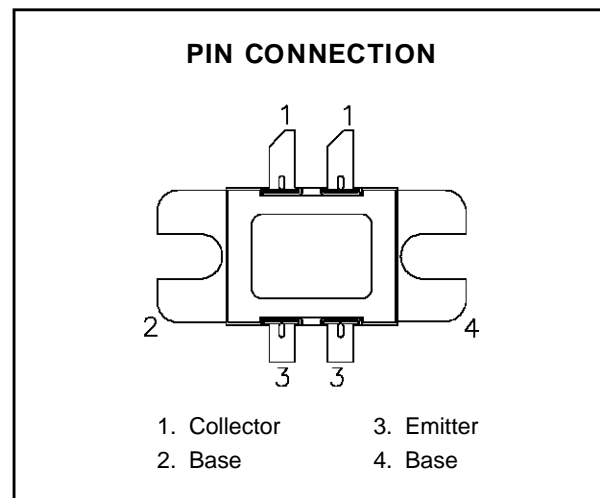


RF & MICROWAVE TRANSISTORS UHF PULSED APPLICATIONS

- 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 SD1565 is a hermetically sealed, gold metallized silicon NPN pulse power transistor mounted in a common base balanced configuration. The SD1565 is designed for applications requiring high peak power and low duty cycles within the frequency range of 400 - 500 MHz.


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

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	$^{\circ}C$
T_{STG}	Storage Temperature	- 65 to +200	$^{\circ}C$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	0.15	$^{\circ}C/W$
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SD1565

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

STATIC

Symbol	Test Conditions		Value			Unit
			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	—

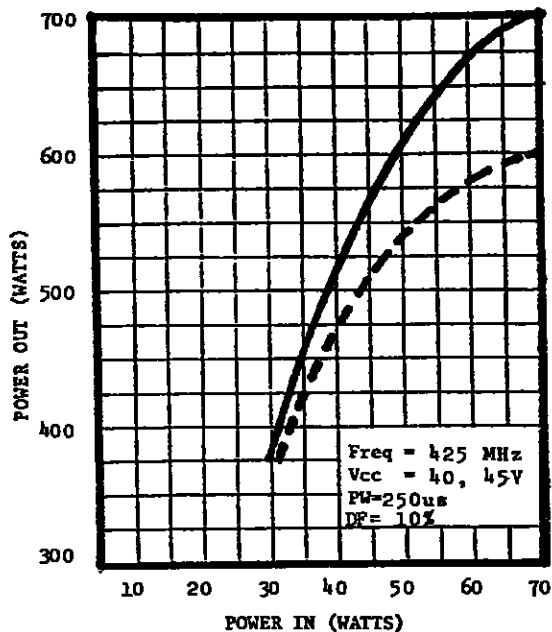
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 425 MHz	P _{IN} = 54 W	V _{CE} = 40 V	500	—	—	W
P _G	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	—	—	%

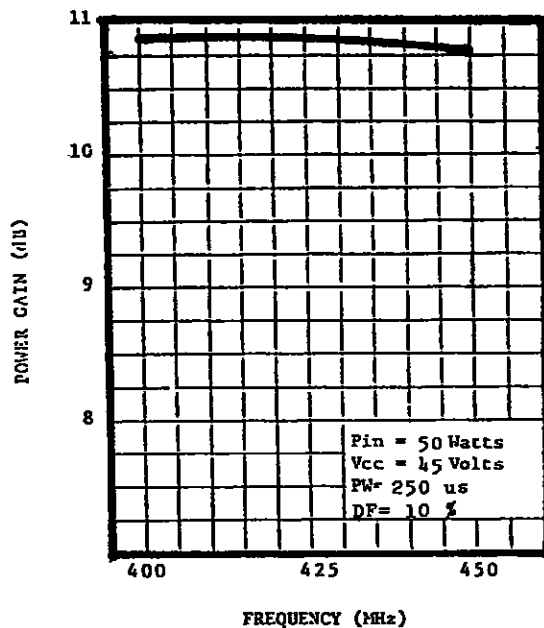
Note: Pulse Width = 250μSec, Duty Cycle = 10%
 This device is suitable for use under other pulse width/duty cycle conditions.
 Please contact the factory for specific applications assistance.

TYPICAL PERFORMANCE (P.W. = 250μS, D.C. = 10%)

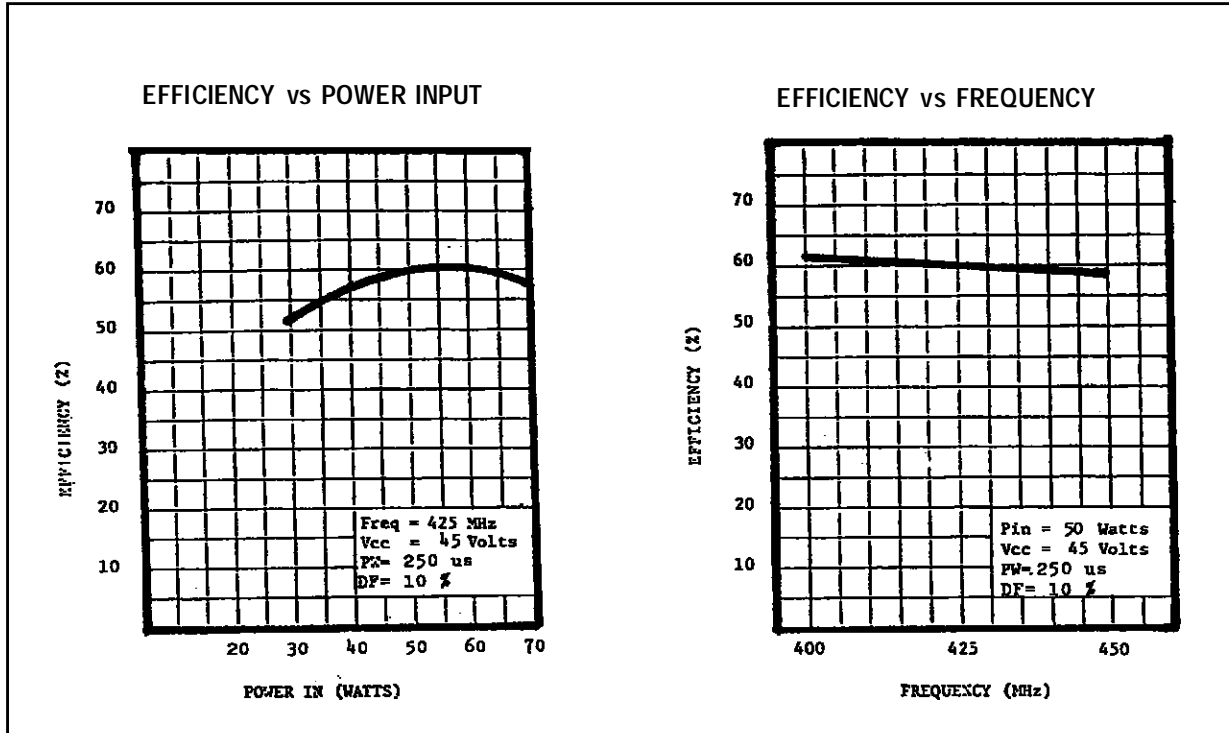
POWER OUTPUT vs POWER INPUT



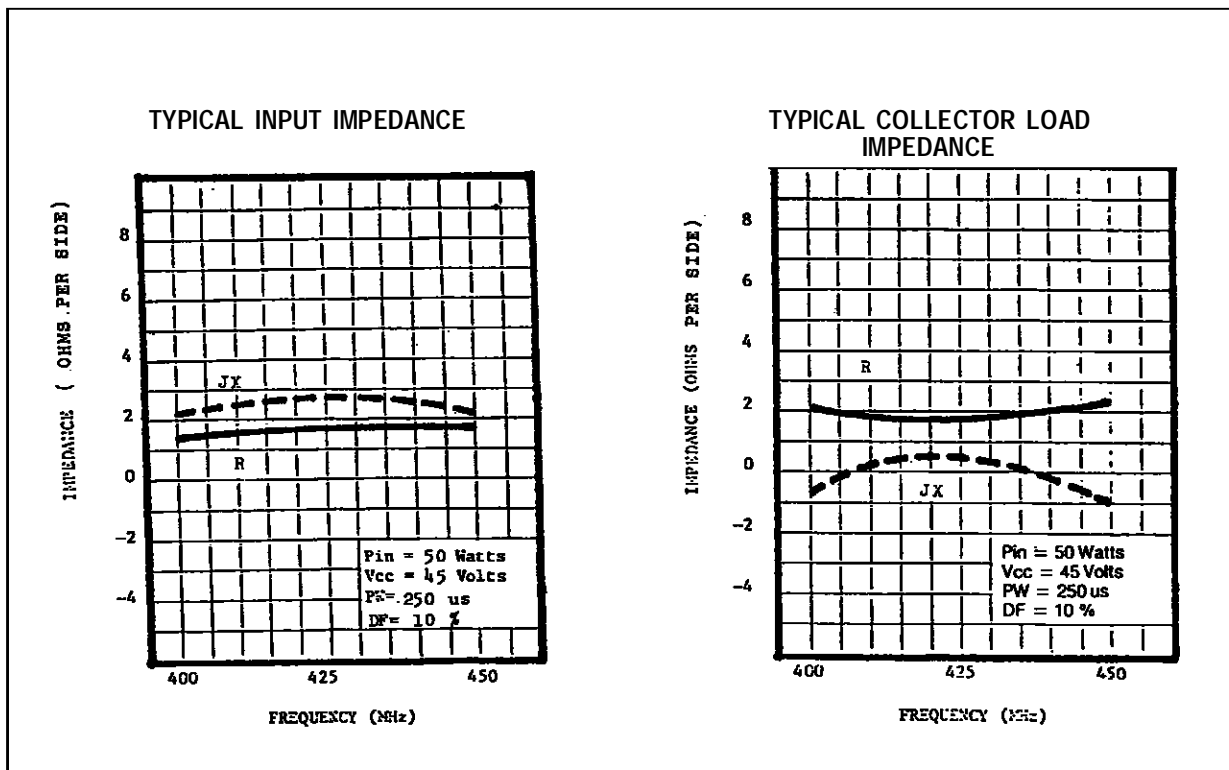
POWER GAIN vs FREQUENCY



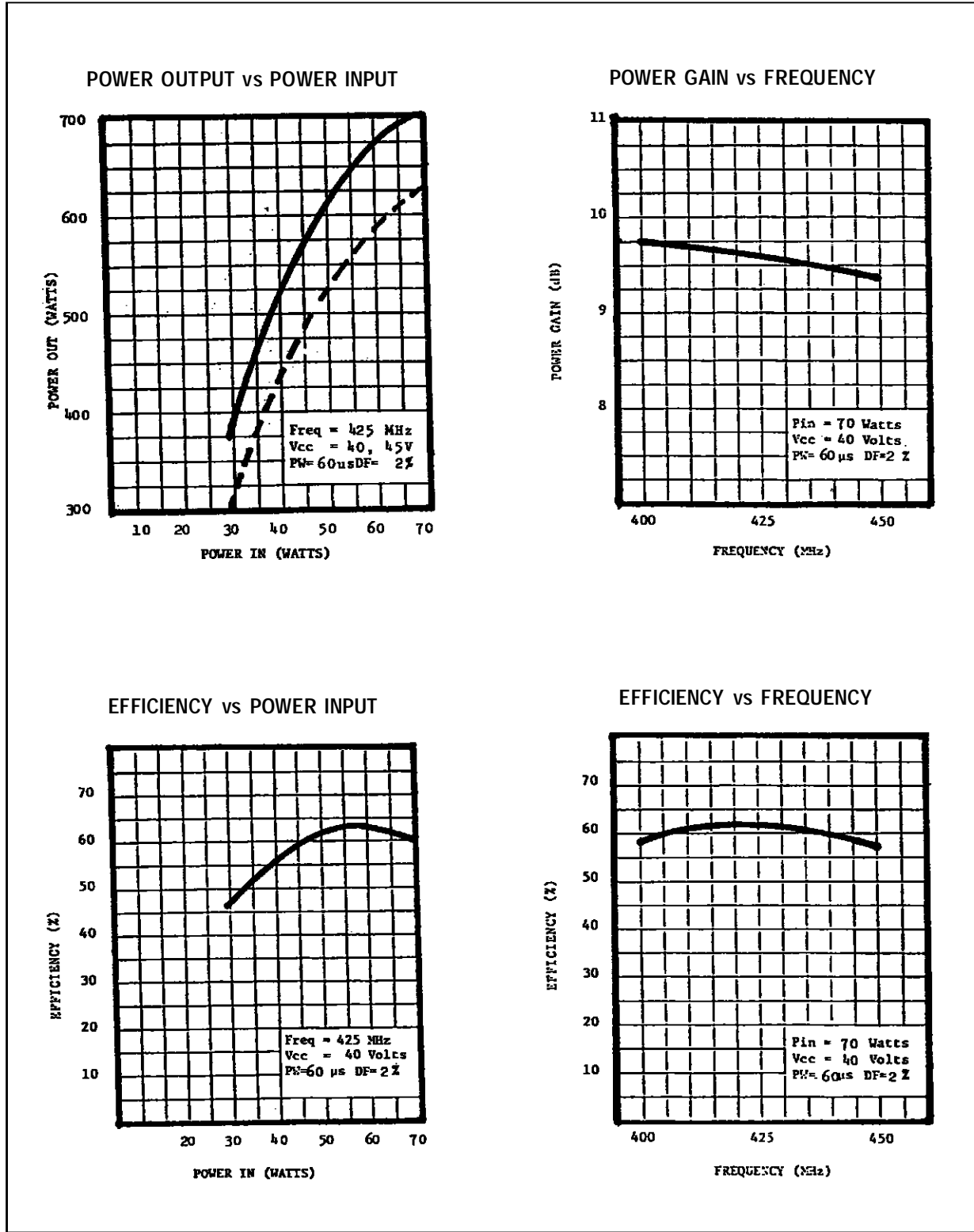
TYPICAL PERFORMANCE (P.W. = 250μS, D.C. = 10%)

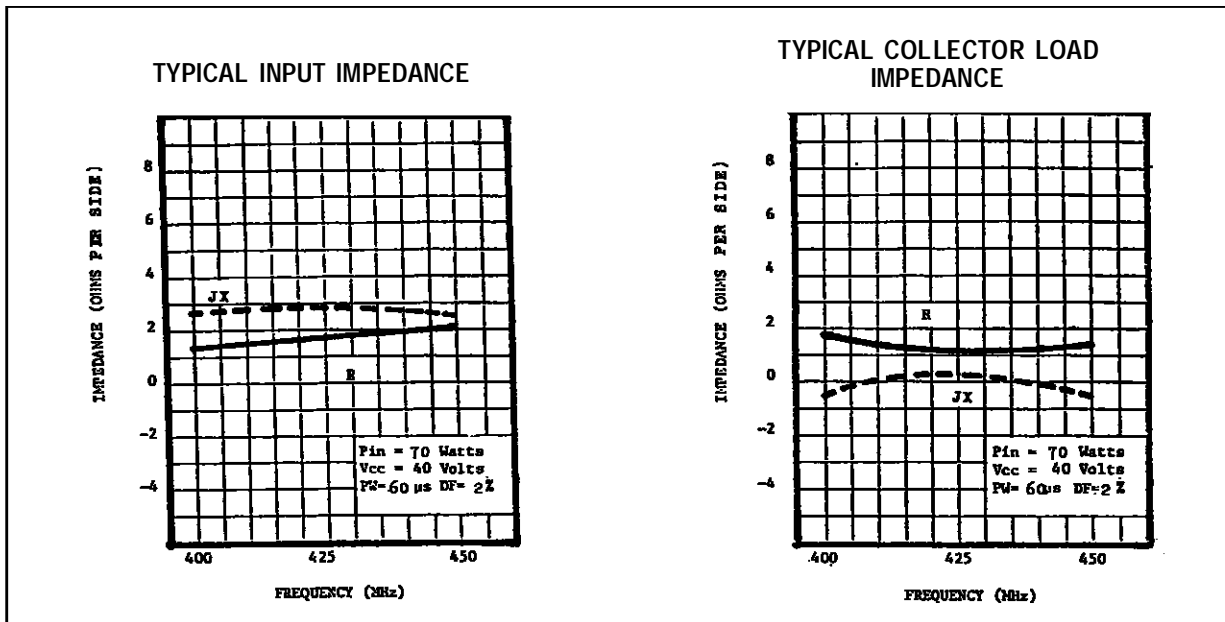


IMPEDANCE DATA (P.W. = 250μS, D.C. = 10%)

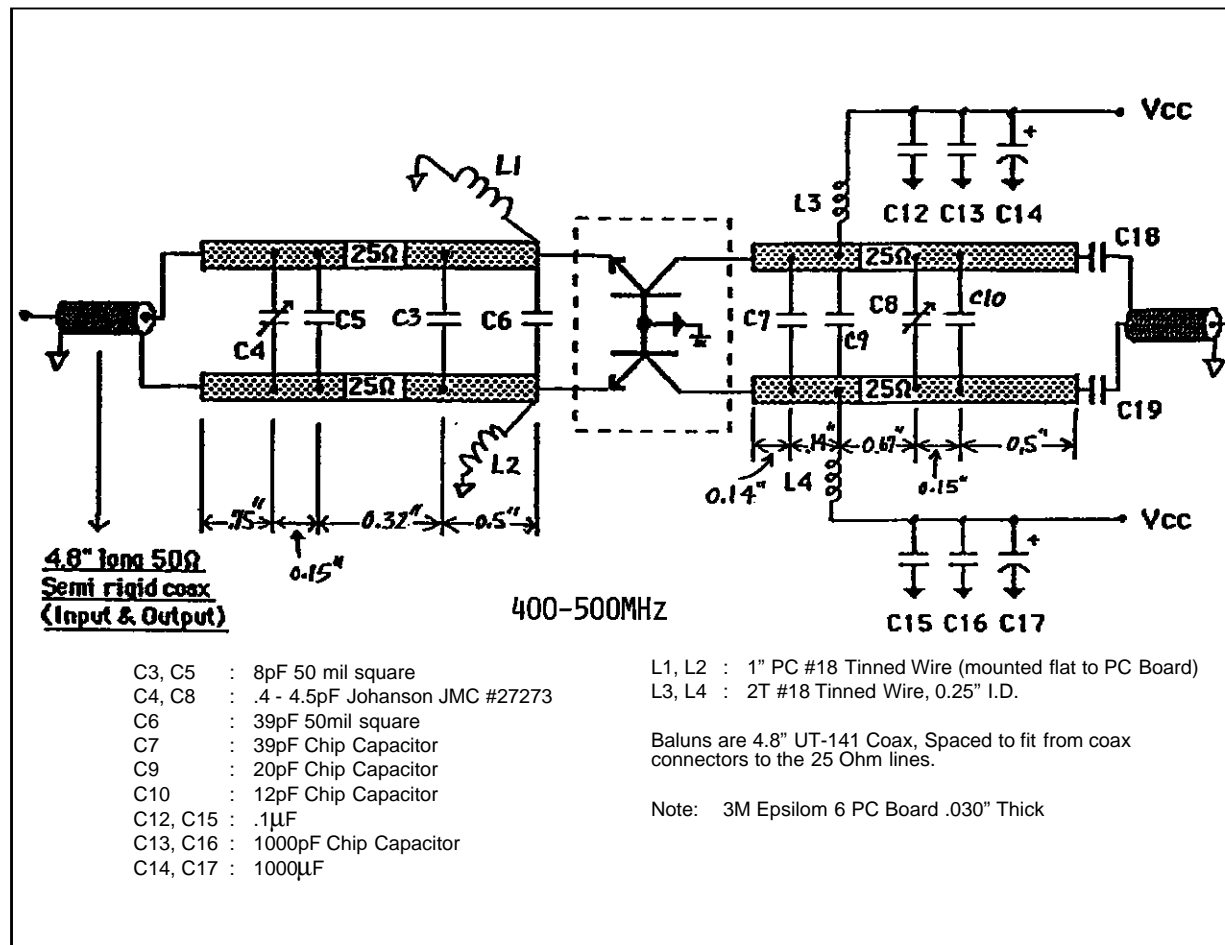


TYPICAL PERFORMANCE (P.W. = 60 μ S, D.C. = 2%)



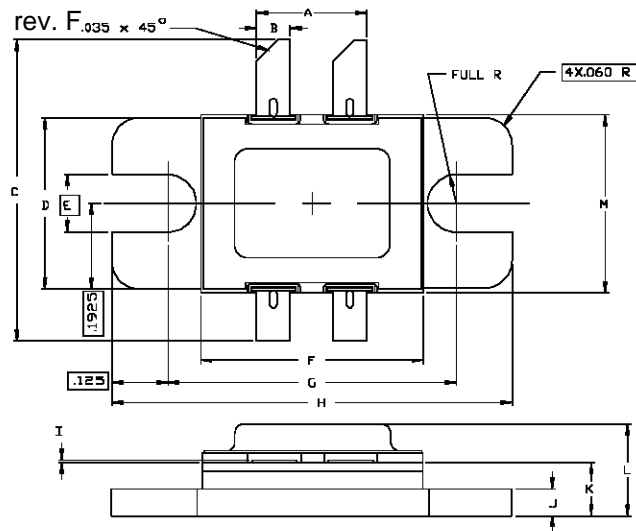
IMPEDANCE DATA (P.W. = 60 μ S, D.C. = 2%)

TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0102 rev. F



SGS-THOMSON MICROELECTRONICS			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			

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