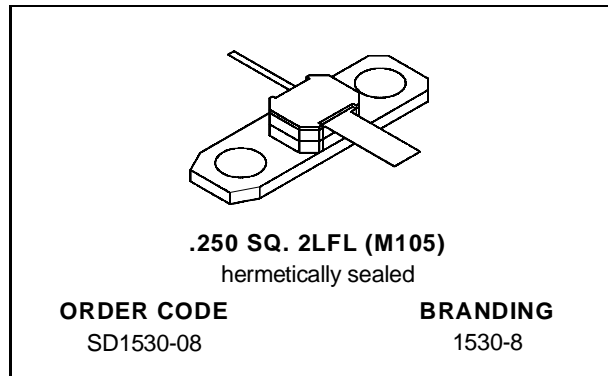
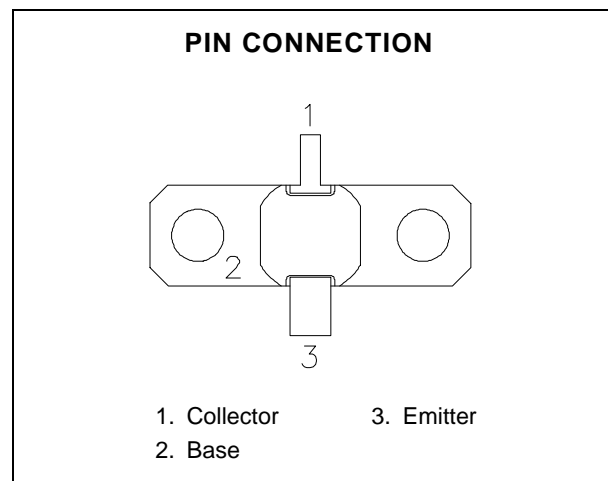


RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

- DESIGNED FOR HIGH POWER PULSED IFF, DME, TACAN APPLICATIONS
- 40 WATTS (typ.) IFF 1030 - 1090 MHz
- 35 WATTS (min.) DME 1025 - 1150 MHz
- 25 WATTS (typ.) TACAN 960 - 1215 MHz
- 9.0 dB MIN. GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- INFINITE LOAD VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION


DESCRIPTION

The SD1530-08 is a gold metallized silicon, NPN power transistor designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. The SD1530-08 is packaged in the .250" input matched hermetic stripline flange package resulting in improved broadband performance and a low thermal resistance.


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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	65	V
V_{CEO}	Collector-Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Device Current	2.6	A
P_{DISS}	Power Dissipation	87.5	W
T_J	Junction Temperature	+200	$^{\circ}C$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}C$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	2.0	$^{\circ}C/W$
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SD1530-08

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

STATIC

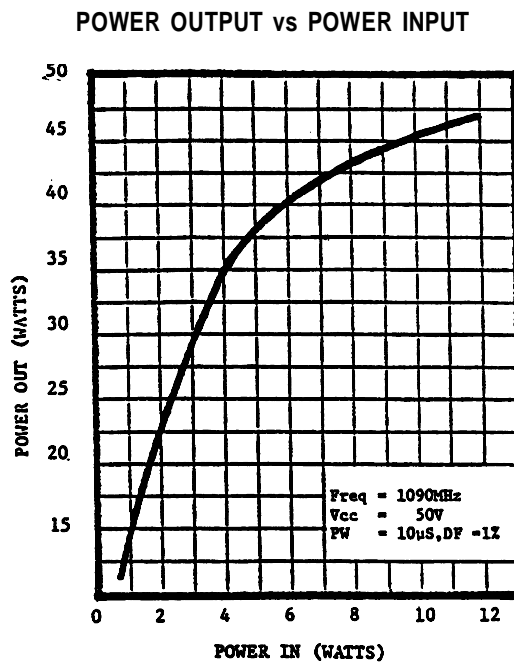
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 10\text{ mA}$	$I_E = 0\text{ mA}$	65	—	—	V
BV_{CES}	$I_C = 25\text{ mA}$	$V_{BE} = 0\text{ V}$	65	—	—	V
BV_{EBO}	$I_E = 1\text{ mA}$	$I_C = 0\text{ mA}$	3.5	—	—	V
I_{CES}	$V_{CE} = 50\text{ V}$	$I_E = 0\text{ mA}$	—	—	5	mA
h_{FE}	$V_{CE} = 5\text{ V}$	$I_C = 500\text{ mA}$	10	—	200	

DYNAMIC

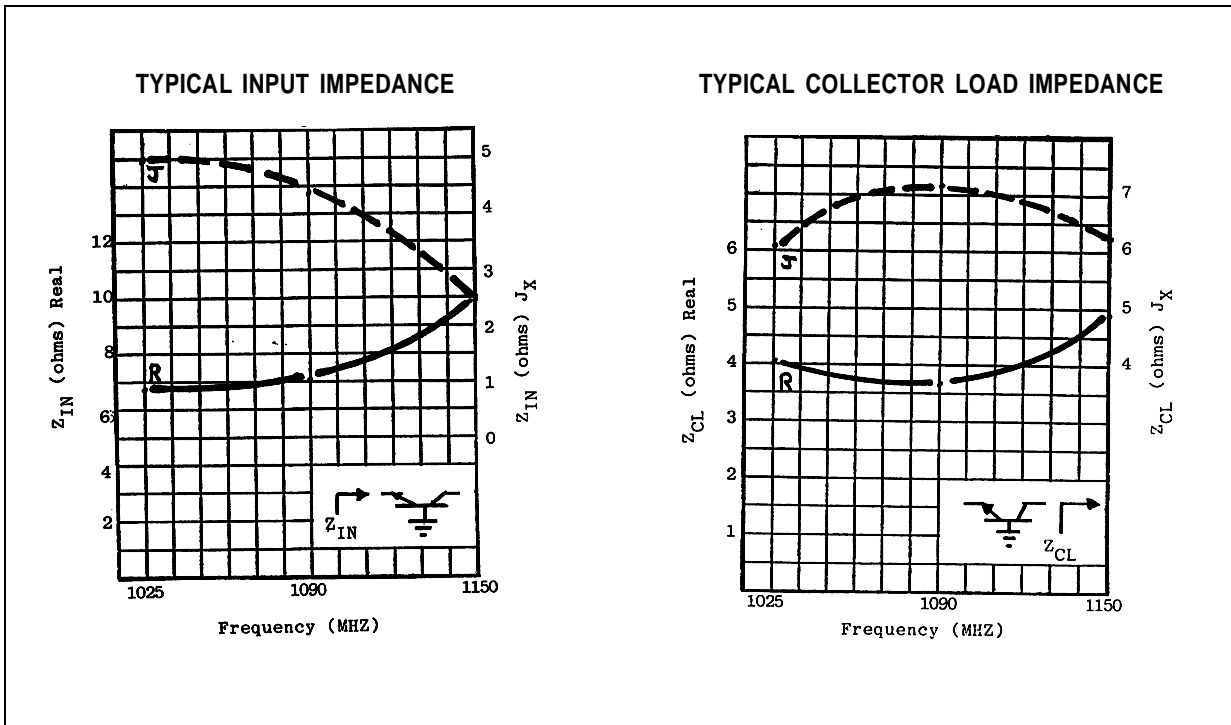
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 1025 - 1150\text{ MHz}$	$P_{IN} = 5.0\text{ W}$	$V_{CE} = 50\text{ V}$	35	—	—	W
P_G	$f = 1025 - 1150\text{ MHz}$	$P_{IN} = 5.0\text{ W}$	$V_{CE} = 50\text{ V}$	8.5	—	—	dB
η_C	$f = 1025 - 1150\text{ MHz}$	$P_{IN} = 5.0\text{ W}$	$V_{CE} = 50\text{ V}$	30	—	—	%

Note: Pulse Width = $10\mu\text{Sec}$, Duty Cycle = 1%
 This device is suitable for use under other pulse width/duty cycle conditions.
 Please contact the factory for specific applications assistance.

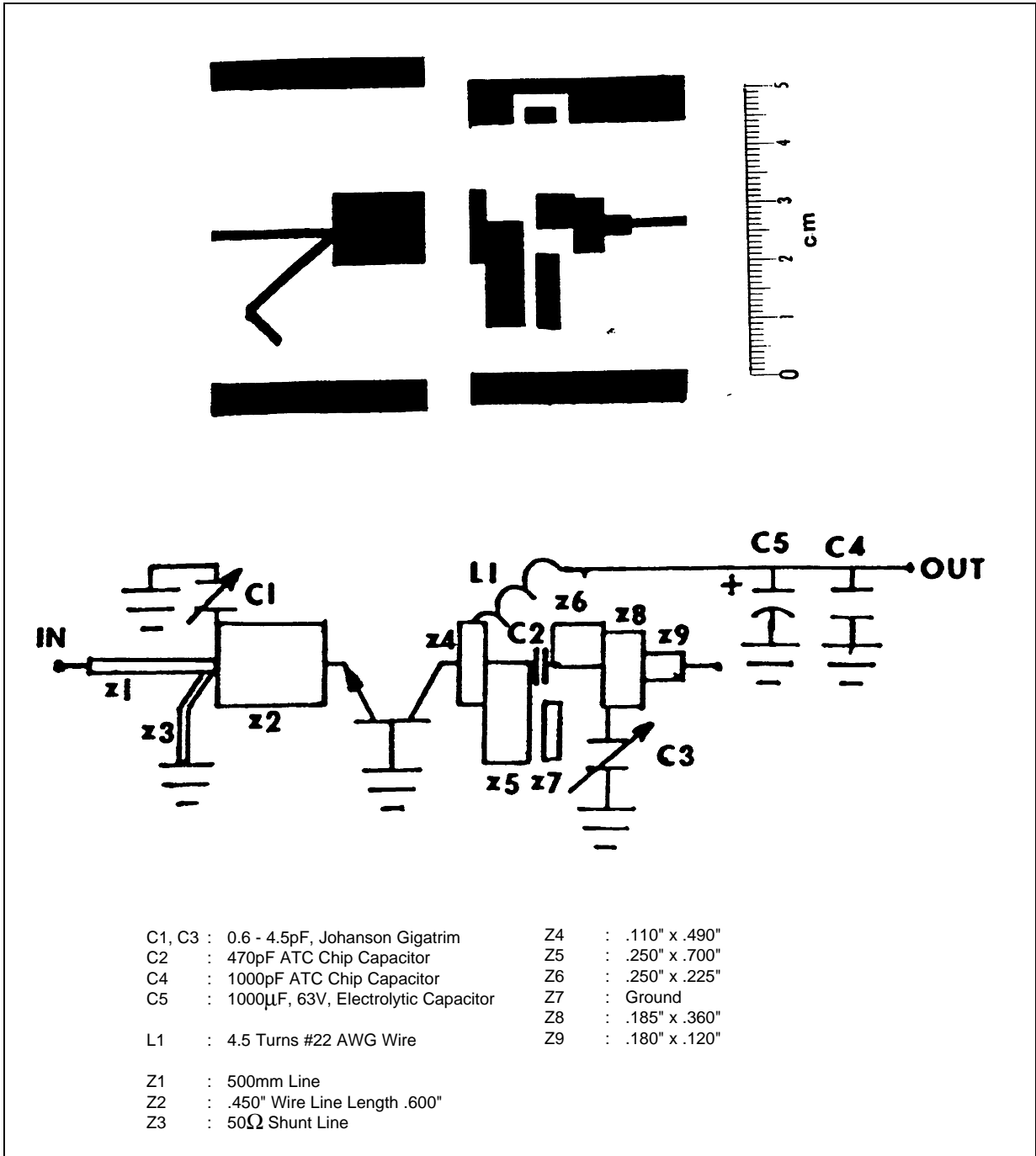
TYPICAL PERFORMANCE



IMPEDANCE DATA

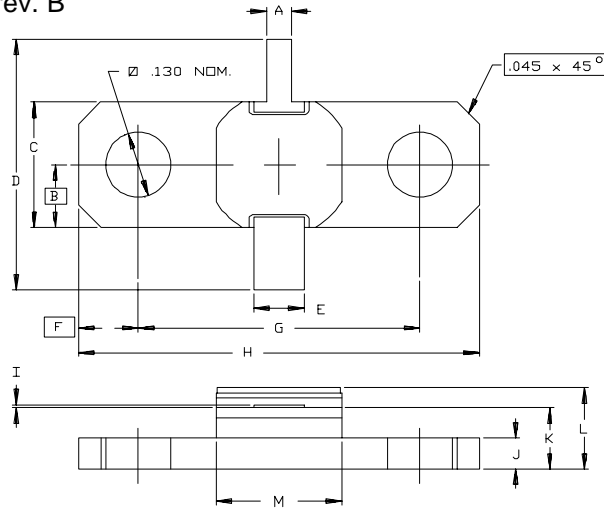


TEST CIRCUIT AND PC BOARD LAYOUT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0105 rev. B



SGS-THOMSON MICROELECTRONIC			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.045/1,14	.055/1,40	K	.112/2,84	.132/3,35
B	.125/3,18		L		.175/4,45
C	.245/6,22	.255/6,48	M	.245/6,22	.257/6,53
D	1.235/31,37				
E	.095/2,41	.105/2,67			
F	.120/3,05				
G	.557/14,15	.567/14,40			
H	.795/20,19	.805/20,45			
I	.002/0,05	.006/0,15			
J	.057/1,45	.067/1,70			

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