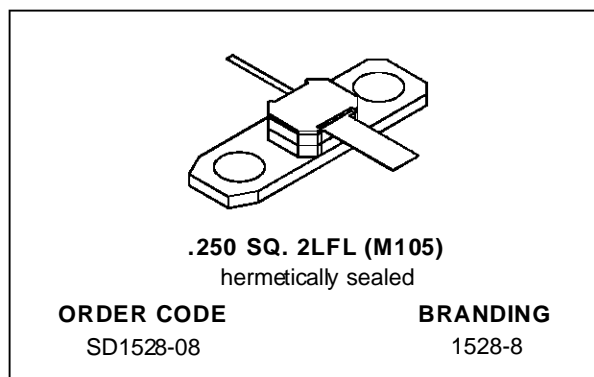
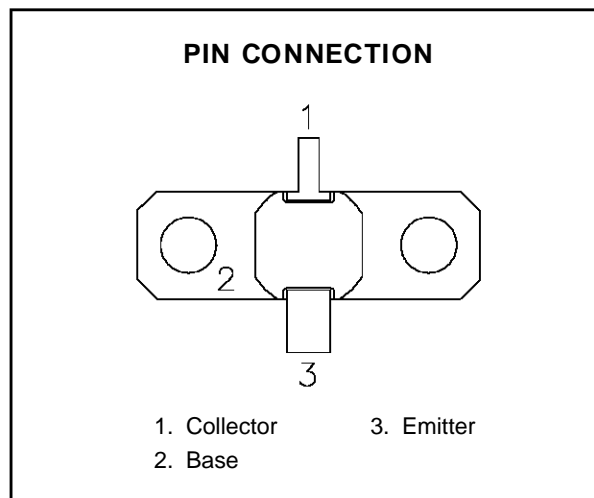


**RF & MICROWAVE TRANSISTORS  
AVIONICS APPLICATIONS**

- DESIGNED FOR HIGH POWER PULSED IFF, DME, TACAN APPLICATIONS
- 20 WATTS (typ.) IFF 1030 - 1090 MHz
- 15 WATTS (min.) DME 1025 - 1150 MHz
- 15 WATTS (typ.) TACAN 960 - 1215 MHz
- 10 dB MIN. GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE
- 20:1 LOAD VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION


**DESCRIPTION**

The SD1528-08 is a gold metallized, silicon NPN power transistor. The SD1528-08 is designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. The SD1528-08 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	1.5	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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# SD1528-08

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 10mA	I <sub>E</sub> = 0mA	65	—	—	V
BV <sub>CES</sub>	I <sub>C</sub> = 25mA	V <sub>BE</sub> = 0V	65	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 1mA	I <sub>C</sub> = 0mA	3.5	—	—	V
I <sub>CES</sub>	V <sub>CE</sub> = 50V	I <sub>E</sub> = 0mA	—	—	2	mA

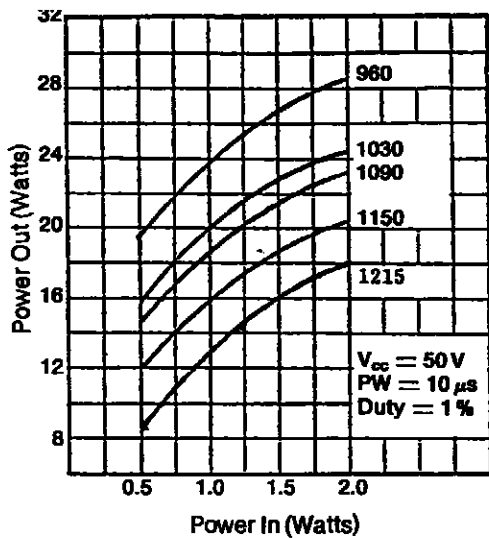
### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 1025 — 1150MHz	P <sub>IN</sub> = 1.5 W	V <sub>CE</sub> = 50 V	15	—	—	W
G <sub>P</sub>	f = 1025 — 1150MHz	P <sub>IN</sub> = 1.5 W	V <sub>CE</sub> = 50 V	10	—	—	dB
η <sub>C</sub>	f = 1025 — 1150MHz	P <sub>IN</sub> = 1.5 W	V <sub>CE</sub> = 50 V	30	—	—	%

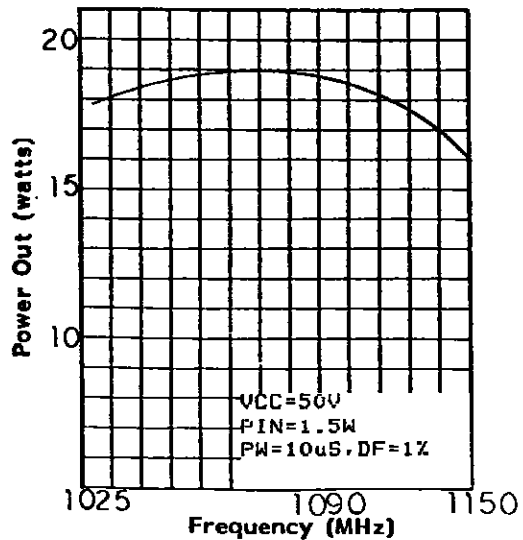
Note: Pulse Width = 10μSec, Duty Cycle = 1%

### TYPICAL PERFORMANCE

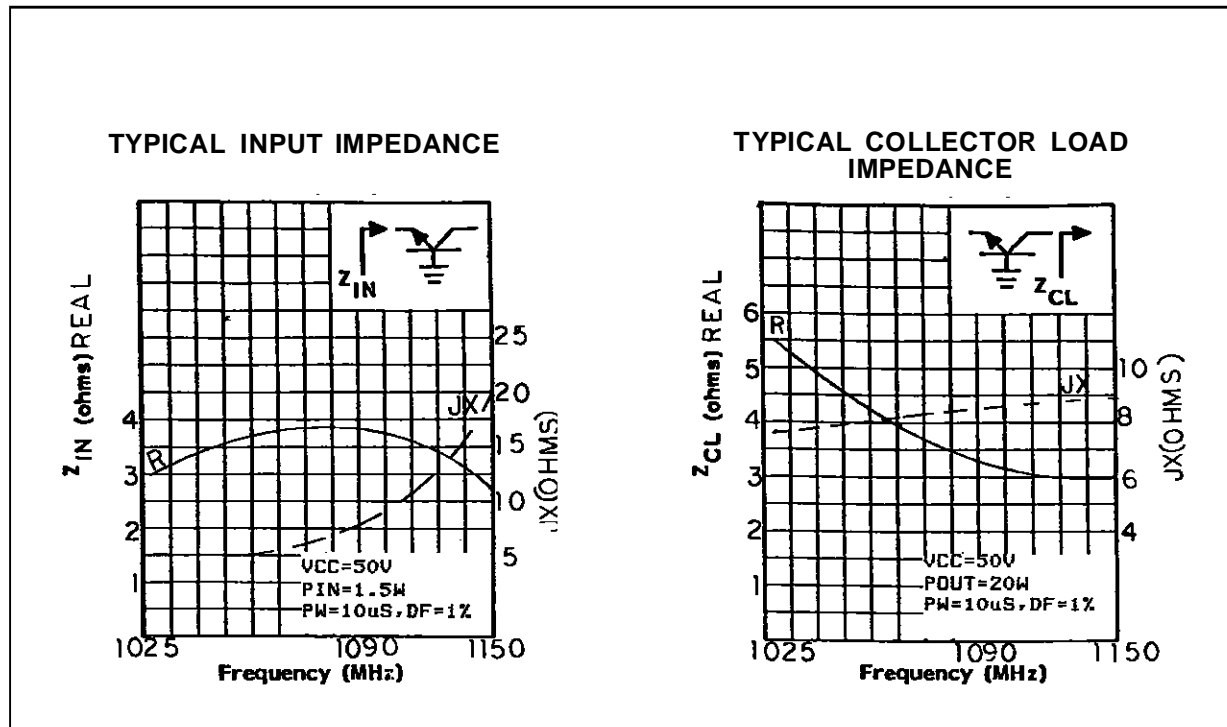
POWER OUTPUT vs POWER INPUT



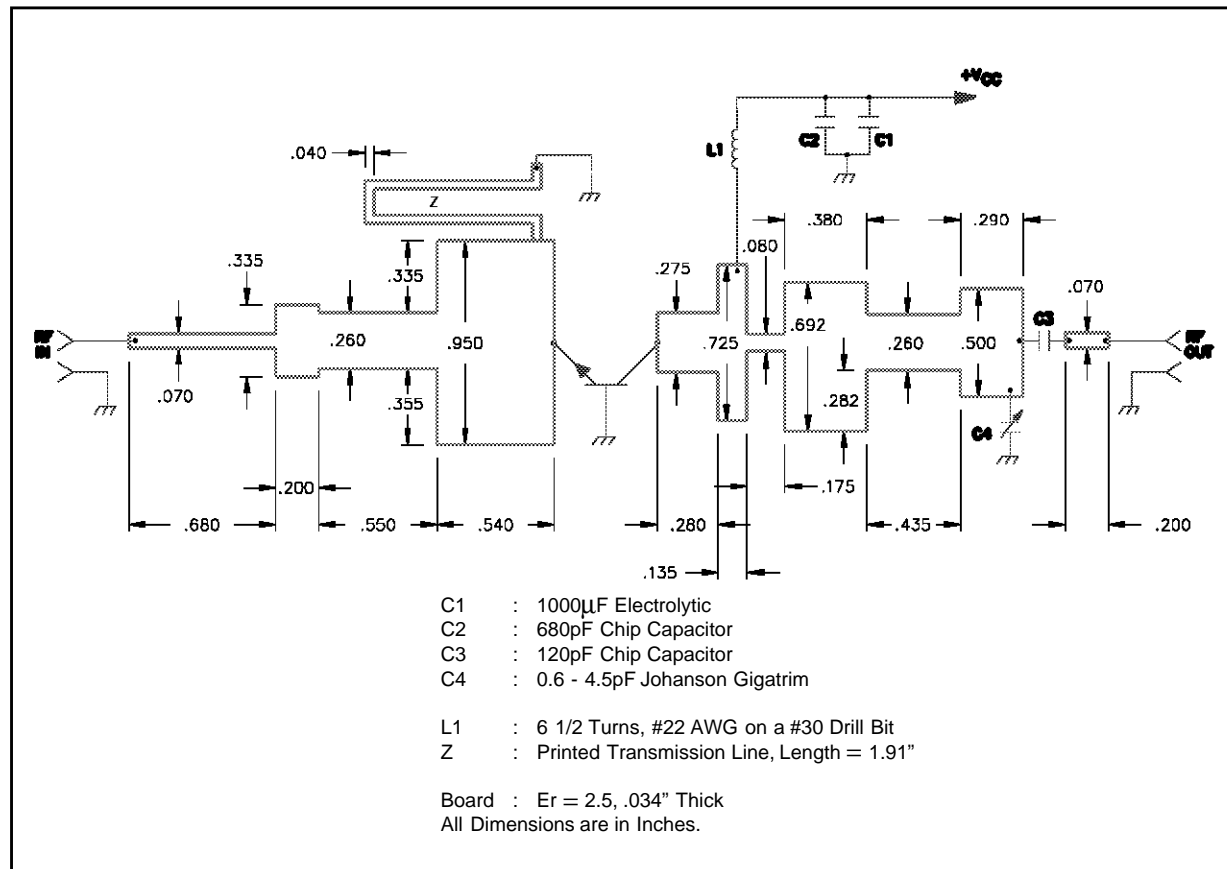
POWER OUTPUT vs FREQUENCY



## IMPEDANCE DATA

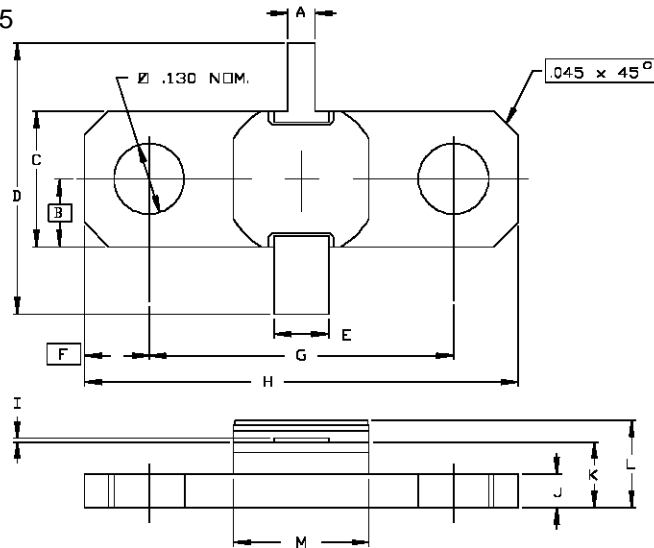


## TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0105



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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