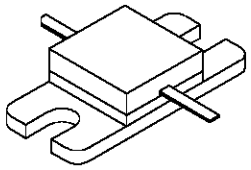
SGS-THOMSON MICROELECTRONICS

SD1540

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

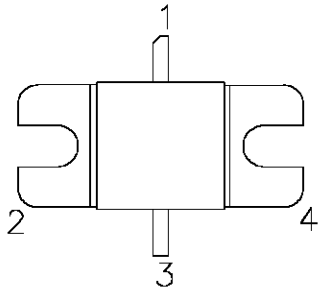
- DESIGNED FOR HIGH POWER PULSED IFF, DME, TACAN APPLICATIONS
- 350 WATTS (typ.) IFF 1030 - 1090 MHz
- 300 WATTS (min.) DME 1025 - 1150 MHz
- 2900 WATTS (typ.) TACAN 960 - 1215 MHz
- 6.3 dB MIN. GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 30:1 LOAD VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT/OUTPUT MATCHED, COMMON BASE CONFIGURATION



.400 SQ. 2LFL (M103)
epoxy sealed

ORDER CODE	BRANDING
SD1540	SD1540

PIN CONNECTION



1. Collector
2. Base
3. Emitter
4. Base

DESCRIPTION

The SD1540 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 SD1540 is packaged in a metal/ceramic package with internal input/output matching resulting in improved broadband performance and a low thermal resistance.

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	22	A
P_{DISS}	Power Dissipation	875	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	0.20	°C/W

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

STATIC

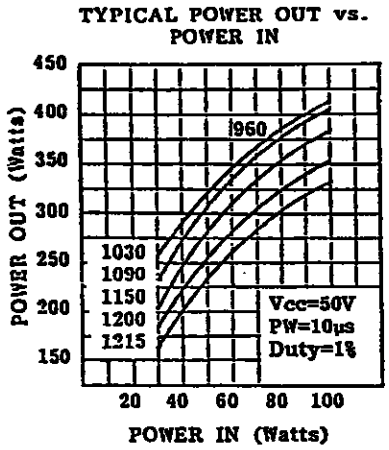
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 10mA	I_E = 0mA	65	—	—	V
BV_{EBO}	I_E = 5mA	I_C = 0mA	3.5	—	—	V
I_{CES}	V_{CE} = 50V	I_E = 0mA	—	—	25	mA

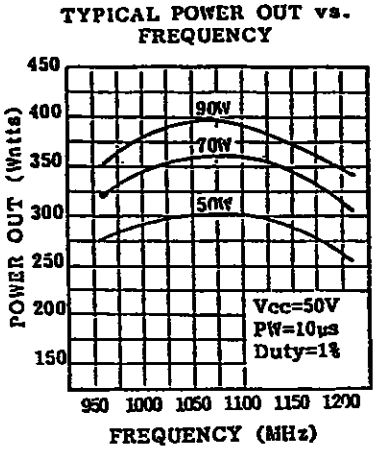
DYNAMIC

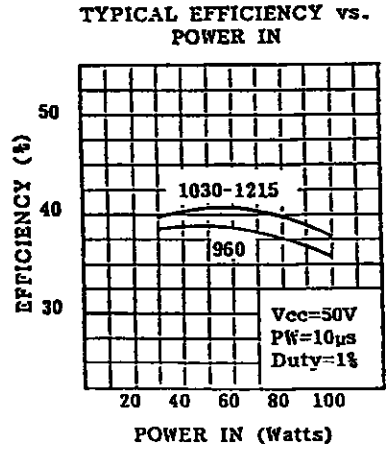
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{OUT}	f = 1025 — 1150MHz P_{IN} = 70 W	V_{CE} = 50 V	300	—	—	W
G_P	f = 1025 — 1150MHz P_{IN} = 70 W	V_{CE} = 50 V	6.3	—	—	dB

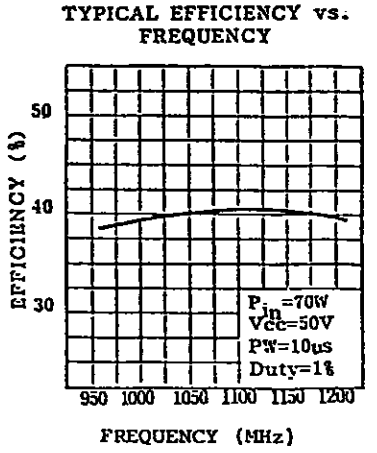
Note: Pulse Width = 10μSec, Duty Cycle = 1%
This device is suitable for use under other pulse width/duty cycle conditions.
Please contact the factory for specific applications asistance.

TYPICAL PERFORMANCE

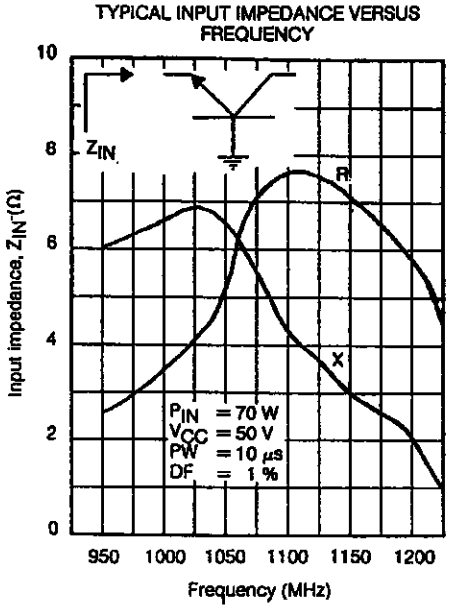


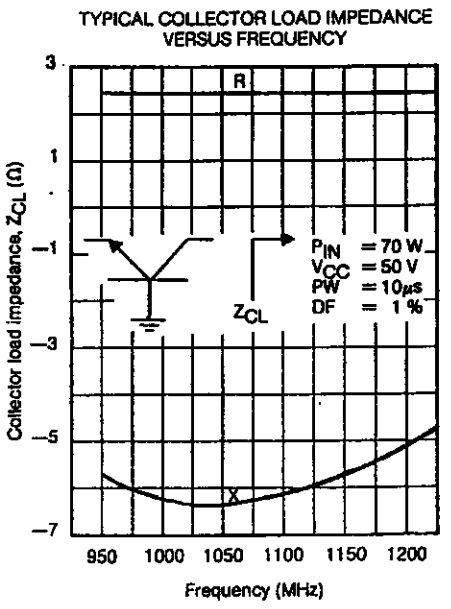




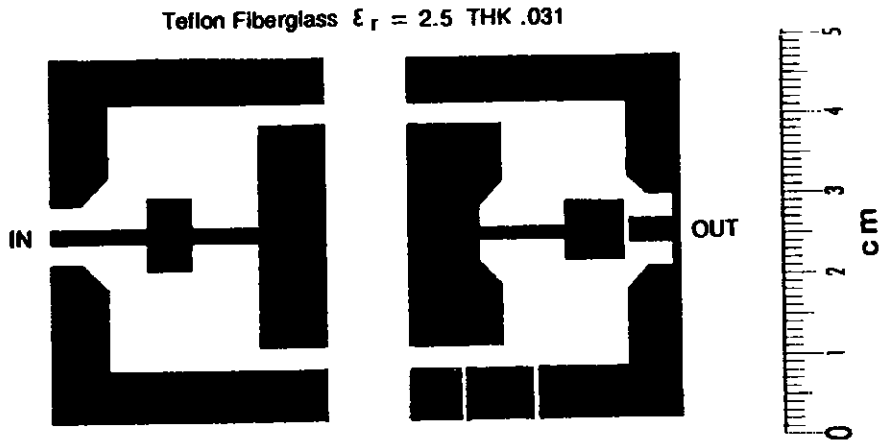


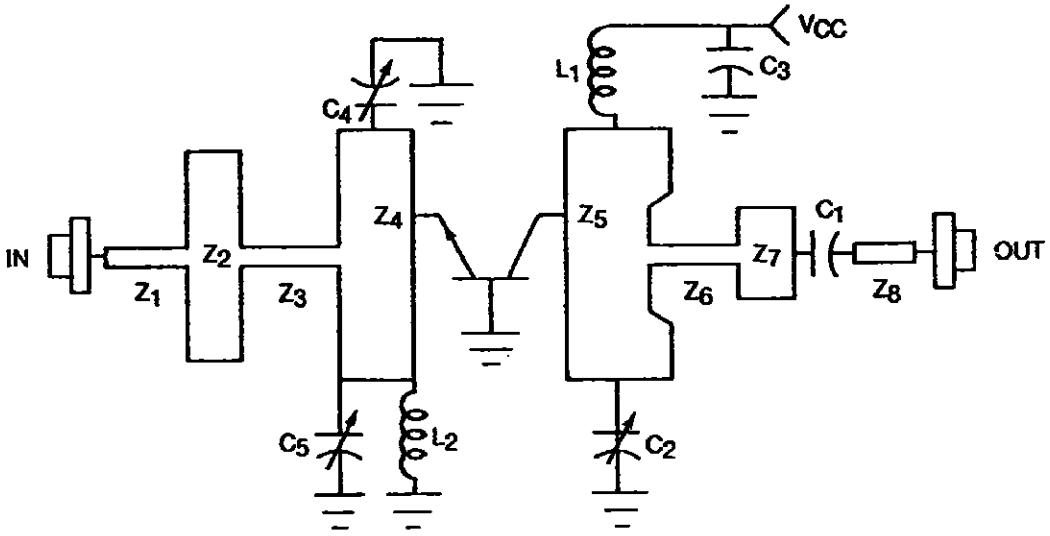
IMPEDANCE DATA





TEST CIRCUIT





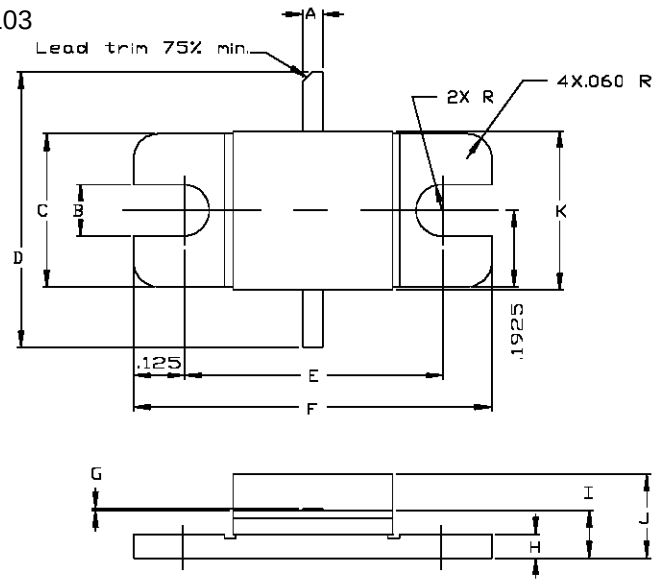
All Dimension are in Inches

C1	:	100pF Chip Capacitor Across .120 Sq. Gap
C2	:	.6 - 4.5pF JOHANSON
C3	:	470pF Chip Capacitor Across .120 Sq. Gap
C4, C5	:	.35 - 3.5pF
L1	:	2 3/4 Turns Diameter 16 Tinned .125 I.D. .215 Long
L2	:	2 3/4 Turns Diameter 20 Tinned .090 I.D. .220 Long

Z1	:	.395 x .083
Z2	:	.250 x .340
Z3	:	.495 x .083
Z4	:	.360 x 1.193
Z5	:	.485 x 1.2
Z6	:	.520 x .035
Z7	:	.270 x .330
Z8	:	.270 x .110

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0103



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.045/1,14	.055/1,40	K	.390/9,91	.410/10,41
B	.130/3,30				
C	.380/ 9,65	.390/ 9,91			
D	.880/22,35	.920/23,37			
E	.645/16,38	.655/16,64			
F	.890/22,61	.910/23,11			
G	.002/0,05	.006/0,15			
H	.055/1,40	.065/1,65			
I	.110/2,79	.130/3,30			
J	.190/4,83	.215/5,46			

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