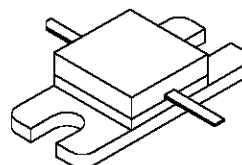


RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

- 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

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.



.400 SQ. 2LFL (M103)
epoxy sealed

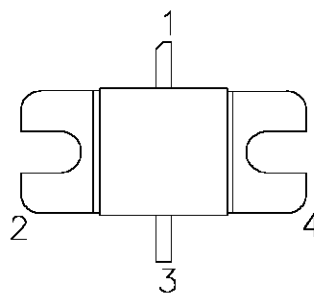
ORDER CODE

SD1540

BRANDING

SD1540

PIN CONNECTION



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

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	22	A
P_{DISS}	Power Dissipation	875	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	0.20	$^{\circ}C/W$
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SD1540

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

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

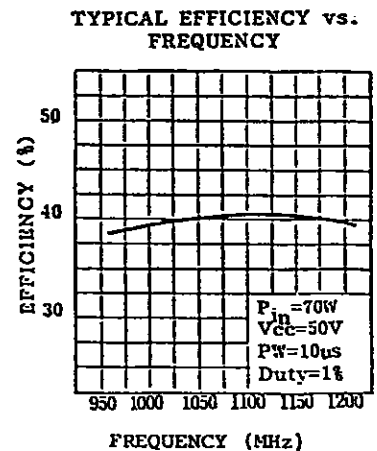
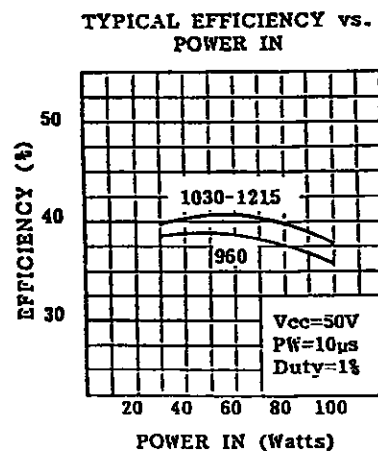
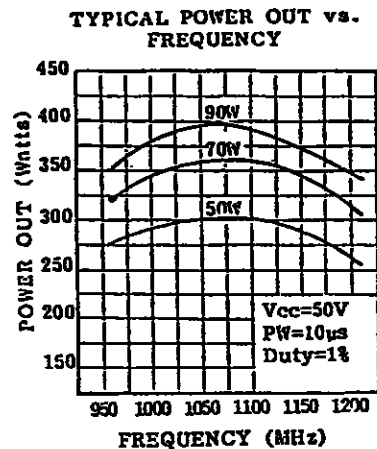
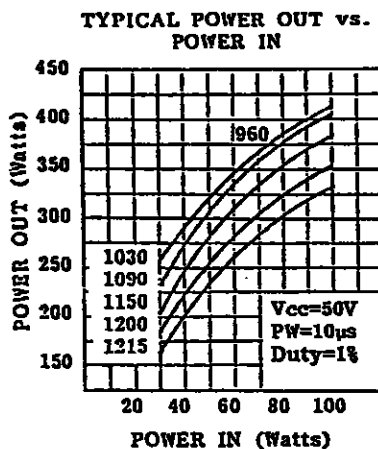
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	$f = 1025 \text{ — } 1150MHz$ $P_{IN} = 70 \text{ W}$ $V_{CE} = 50 \text{ V}$	300	—	—	W
G_P	$f = 1025 \text{ — } 1150MHz$ $P_{IN} = 70 \text{ W}$ $V_{CE} = 50 \text{ V}$	6.3	—	—	dB

Note: Pulse Width = $10\mu Sec$, Duty Cycle = 1%

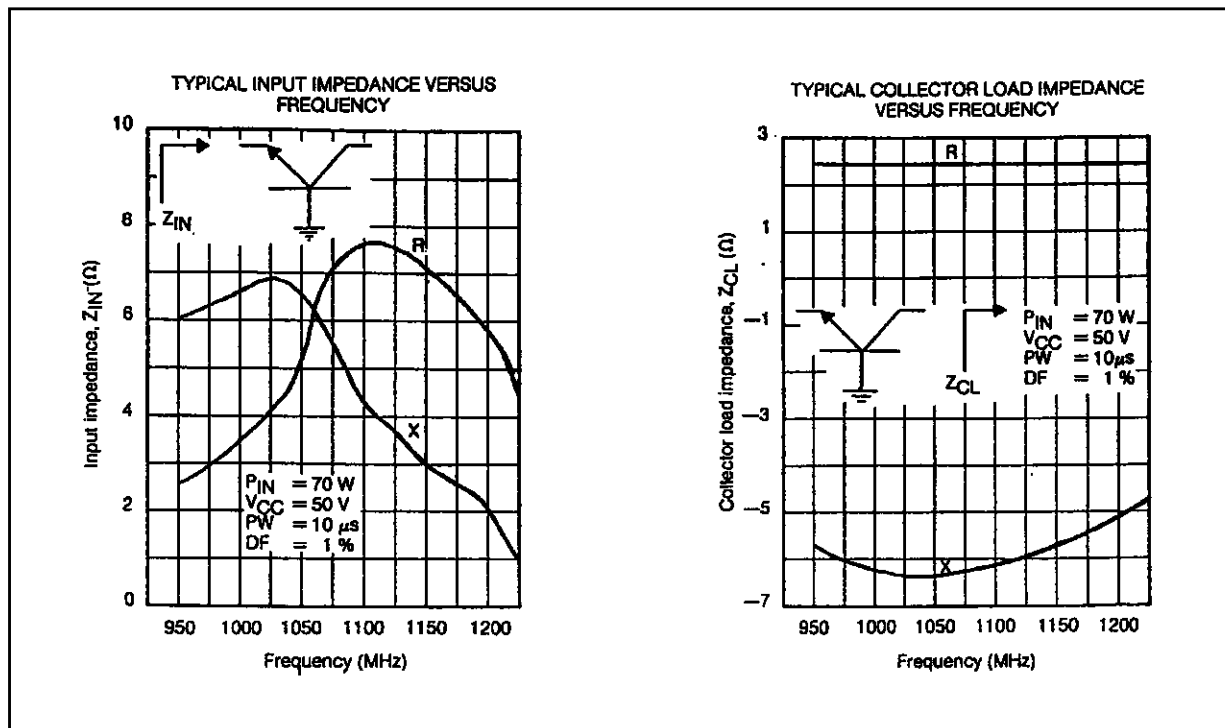
This device is suitable for use under other pulse width/duty cycle conditions.

Please contact the factory for specific applications assistance.

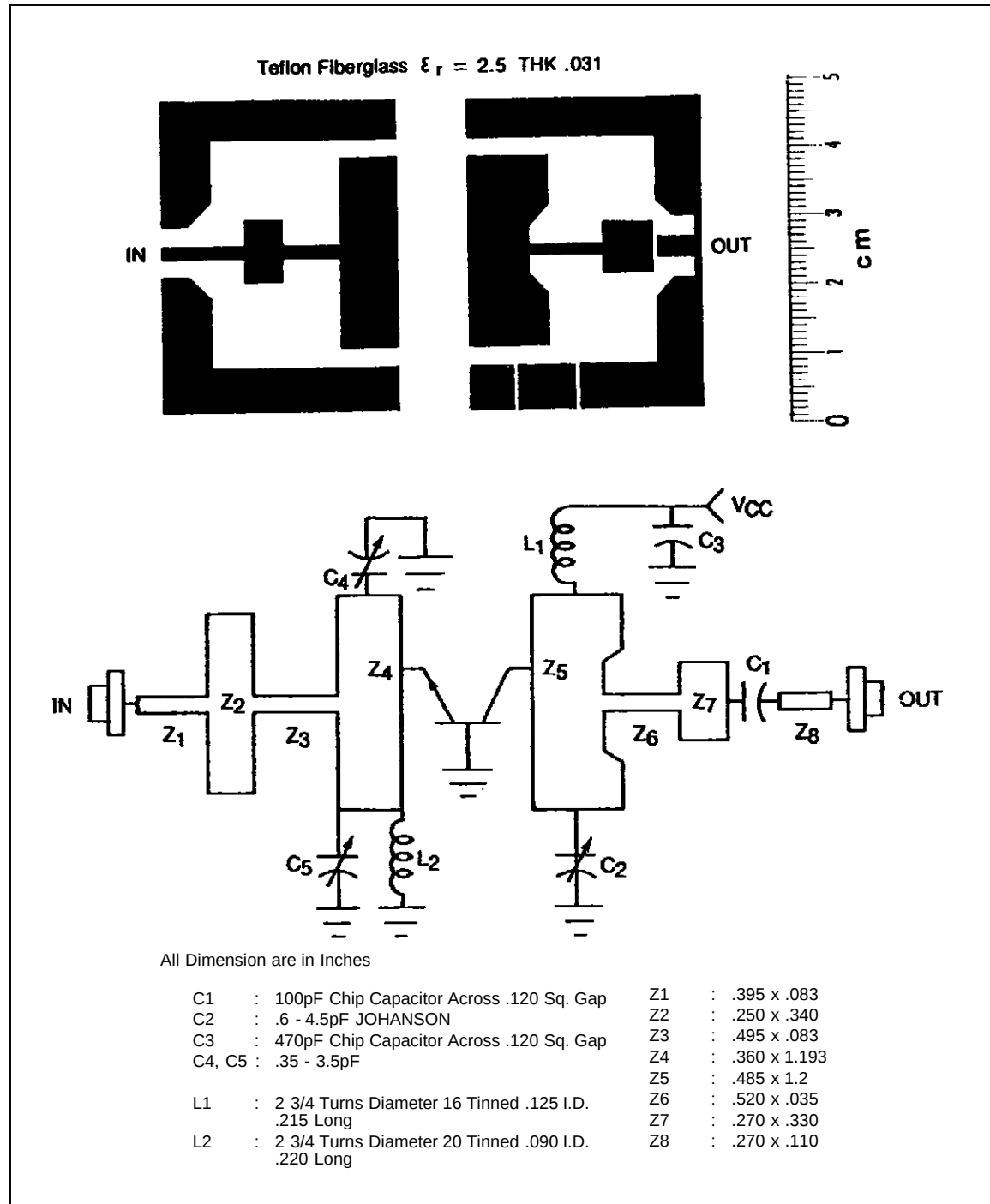
TYPICAL PERFORMANCE



IMPEDANCE DATA

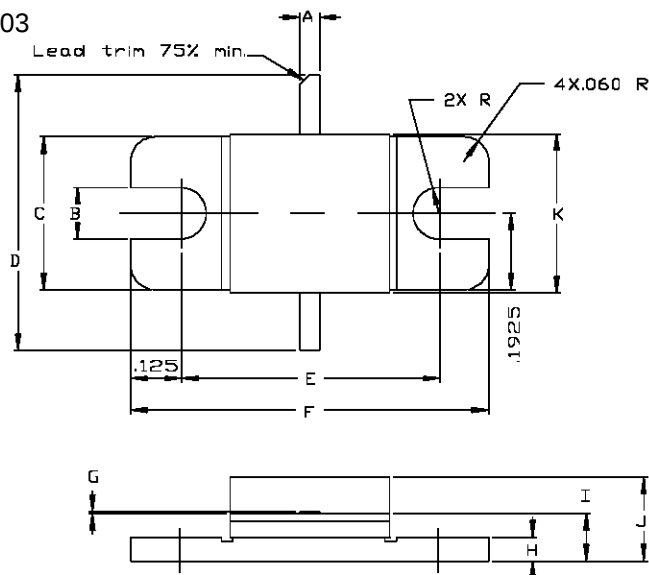


TEST CIRCUIT



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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