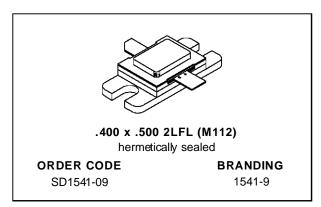
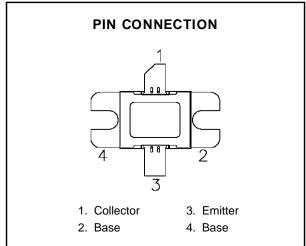


SD1541-09

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

- DESIGNED FOR HIGH POWER PULSED IFF APPLICATIONS
- 450 WATTS (min.) IFF 1030/1090 MHz
- 7.0 dB MIN. GAIN
- REFRACTORY GOLD METALLIZATION
- BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 30:1 LOAD VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION





DESCRIPTION

The SD1541-09 is a gold metallized silicon NPN planar transistor. The SD1541-09 is designedfor applications requiring high peak and low duty cycles such as IFF. The SD1541-09 is packaged in a metal/ceramic package with internal input matching, resulting in improved broadband performance and a low thermal resistance.

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

Symbol	Parameter	Value	Unit
Vсво	Collector-Base Voltage	65	V
V _{CEO}	Collector-Emitter Voltage	65	V
V _{EBO}	Emitter-Base Voltage	3.5	V
Ic	Device Current	22	А
P _{DISS}	Power Dissipation	1458	W
TJ	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to +150	°C

THERMAL DATA

R _{TH(j-c)} Junction-Case Thermal Resistance	0.12	°C/W
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SD1541-09

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions	Value			Unit		
Symbol	rest Conditions		Min.	Тур.	Max.		
ВУсво	I _C = 25mA	$I_E = 0mA$		65	_	_	V
BVces	I _C = 50mA	$I_B = 0mA$		65	_	_	V
BV _{EBO}	I _E = 10mA	$I_C = 0mA$		3.5	_	_	V
I _{CES}	V _{CE} = 50V	$I_E = 0mA$		_		25	mA
hfE	V _{CE} = 5V	I _C = .25A		5	_	200	_

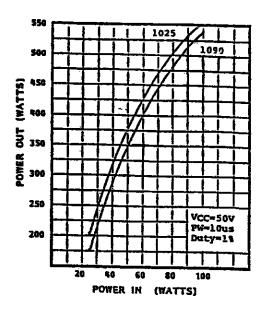
DYNAMIC

Symbol	Test Conditions			Value			
Symbol			Min.	Тур.	Max.	Unit	
Pout	f = 1090 MHz	$P_{IN} = 90 W$	$V_{CE} = 50 V$	450	_	_	W
G _P	f = 1090 MHz	$P_{IN} = 90 W$	$V_{CE} = 50 V$	7.0	_		dB

Note: Pulse Width = 10μ Sec, Duty Cycle = 1%

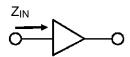
TYPICAL PERFORMANCE

POWER OUTPUT vs POWER INPUT

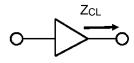


IMPEDANCE DATA



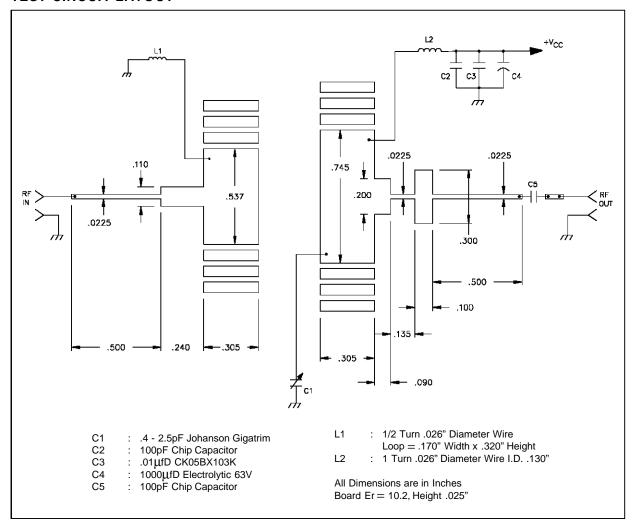


TYPICAL COLLECTOR LOAD IMPEDANCE

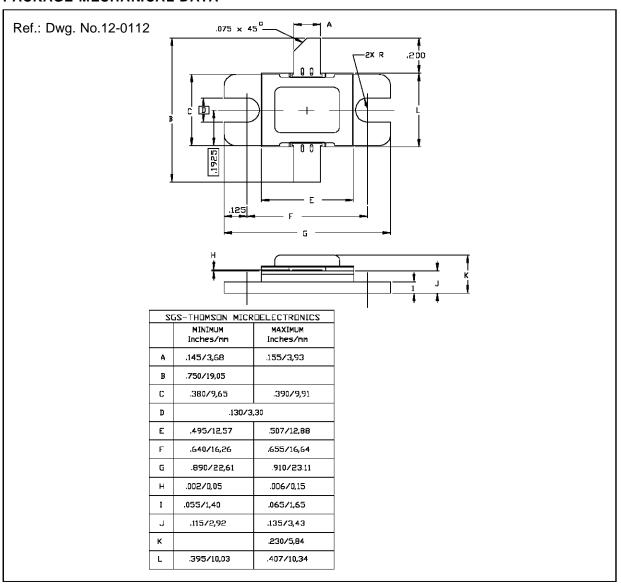


FREQ.	Z _{IN} (Ω)	Z _{CL} (Ω)
1030 MHz	1.6 + j 5.1	1.1 – j 2.0
1090 MHz	2.5 + j 4.7	1.2 – j 1.2

TEST CIRCUIT LAYOUT



PACKAGE MECHANICAL DATA



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