New Jersey Semi-Conductor Products, Inc.

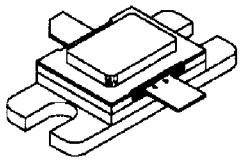
20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

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SD1541-01

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

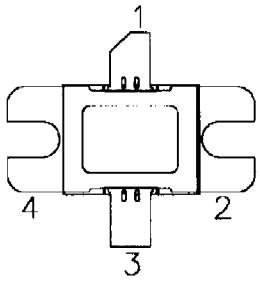
- DESIGNED FOR HIGH POWER PULSED IFF AND DME APPLICATIONS
- 400 (min.) DME 1025 - 1150 MHz
- 6.5 dB MIN. GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 30:1 LOAD VSWR CAPABILITY AT SPECIFICIED OPERATING CONDITIONS
- INPUT/OUTPUT MATCHED, COMMON BASE CONFIGURATION



.400 x .500 2LFL (M112)
hermetically sealed

ORDER CODE	BRANDING
SD1541-01	SD1541-1

PIN CONNECTION



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

DESCRIPTION

The SD1541-01 is a hermetically sealed, gold metallized, silicon NPN power transistor. The SD1541-01 is designed for applications requiring high peak power and low duty cycles such as DME. The SD1541-01 is packaged in a hermetic 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	1458	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	0.12	°C/W

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

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

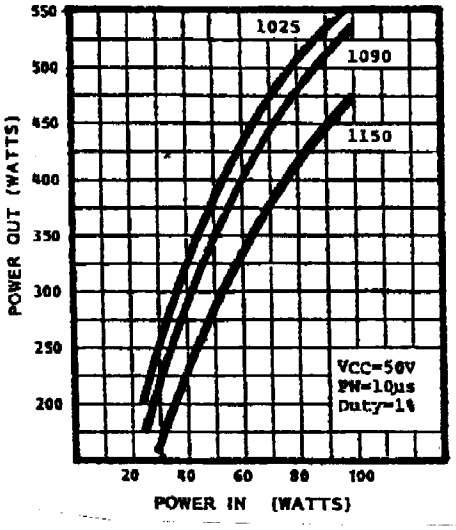
DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{OUT}	f = 1025 — 1150MHz P_{IN} = 90 W	V_{CE} = 50 V	400	—	—	W
G_P	f = 1025 — 1150MHz P_{IN} = 90 W	V_{CE} = 50 V	6.5	—	—	dB

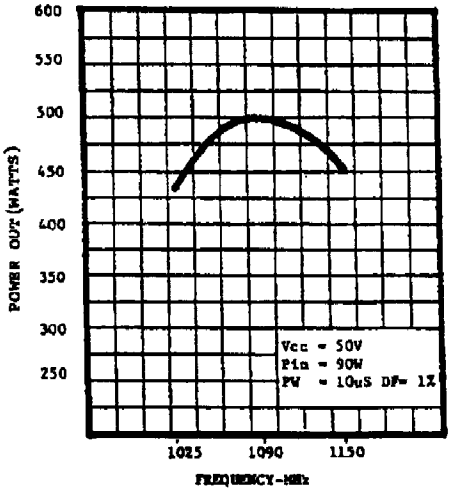
Note: Pulse Width = 10μSec, Duty Cycle = 1%
This device is suitable for use under other pulse width/duty cycle conditions.
Please contact the factory for specific applications assistance.

TYPICAL PERFORMANCE

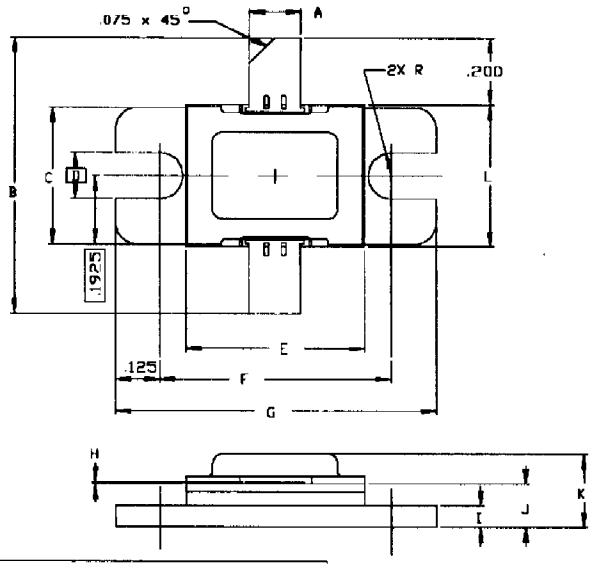
POWER OUTPUT vs POWER INPUT



POWER OUTPUT vs FREQUENCY



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SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.145/3,68	.155/3,93
B	.750/19,05	
C	.380/9,65	.390/9,91
D	.130/3,30	
E	.495/12,57	.507/12,88
F	.640/16,26	.655/16,64
G	.890/22,61	.910/23.11
H	.002/0,05	.006/0,15
I	.055/1,40	.065/1,65
J	.115/2,92	.135/3,43
K		.230/5,84
L	.395/10,03	.407/10,34

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