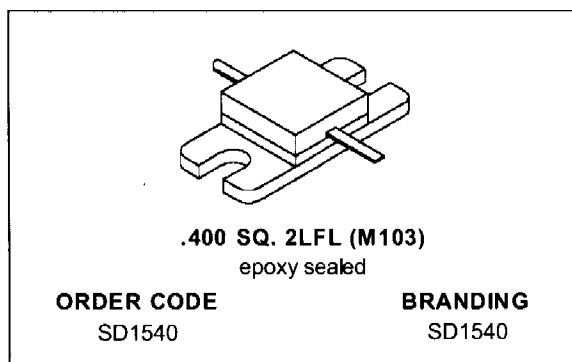


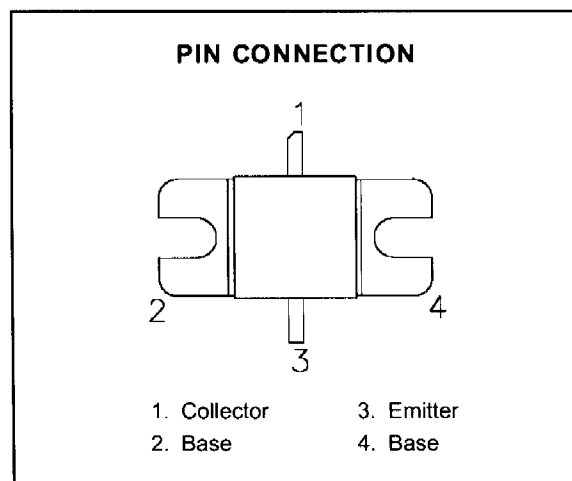
**RF & MICROWAVE TRANSISTORS  
AVIONICS APPLICATIONS**

- 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.



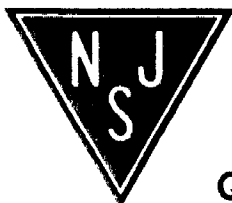
**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	65	V
V <sub>CES</sub>	Collector-Emitter Voltage	65	V
V <sub>EBO</sub>	Emitter-Base Voltage	3.5	V
I <sub>c</sub>	Device Current	22	A
P <sub>DISS</sub>	Power Dissipation	875	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +150	°C

**THERMAL DATA**

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	0.20	°C/W
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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.



# SD1540

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

### STATIC

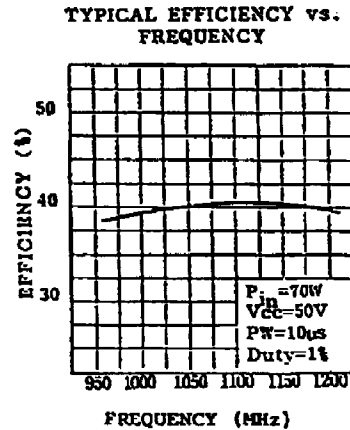
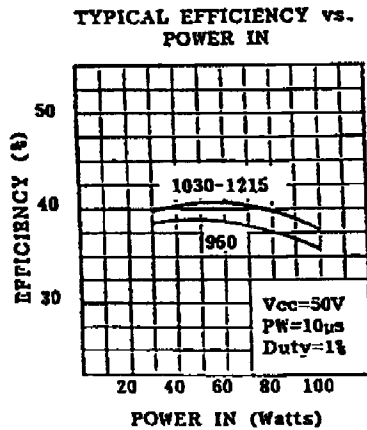
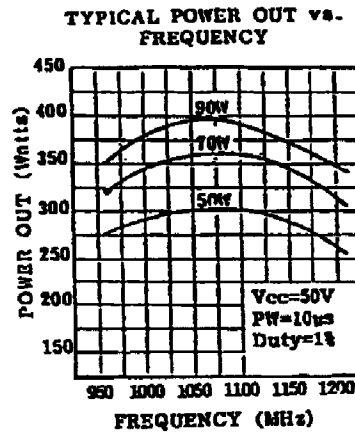
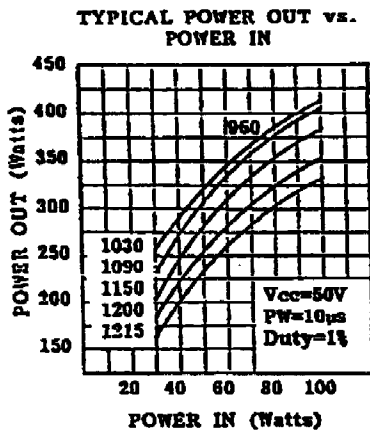
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 10mA$	$I_E = 0mA$	65	—	—	V
$BV_{EBO}$	$I_E = 5mA$	$I_C = 0mA$	3.5	—	—	V
$I_{CES}$	$V_{CE} = 50V$	$I_E = 0mA$	—	—	25	mA

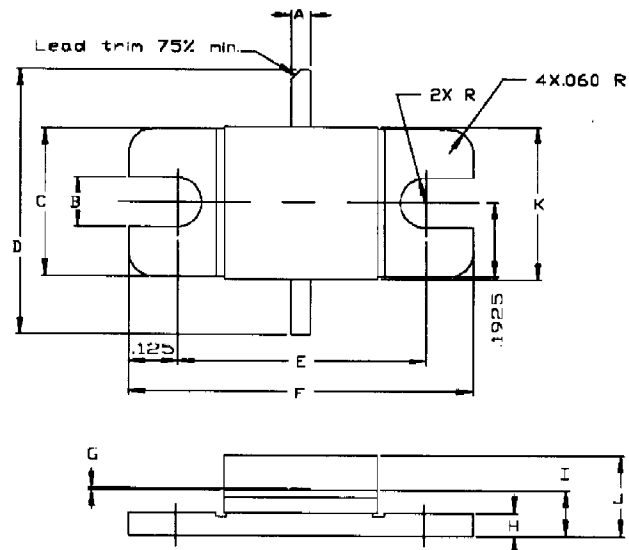
### DYNAMIC

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





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			