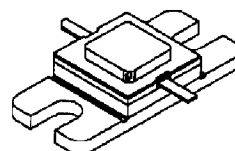


RF & MICROWAVE TRANSISTORS UHF PULSED APPLICATIONS

- 350 WATTS @ 10 μ SEC PULSE WIDTH, 10% DUTY CYCLE
- 300 WATTS @ 250 μ SEC PULSE WIDTH, 10% DUTY CYCLE
- 9.5 dB MIN. GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- INFINITE VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS



.400 x .400 2LFL (M106)
hermetically sealed

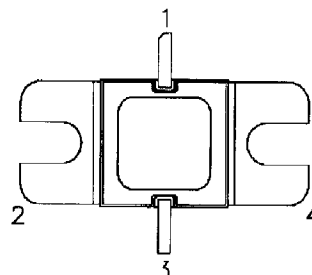
ORDER CODE
SD1563

BRANDING
SD1563

DESCRIPTION

The SD1563 is a gold metallized silicon NPN pulse power transistor. The SD1563 is designed for applications requiring high peak power and low duty cycles within the frequency range of 400 - 500 MHz.

PIN CONNECTION



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

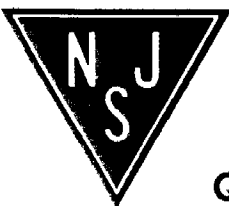
ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$)

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	21.6	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	0.2	$^{\circ}C/W$
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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.



SD1563**ELECTRICAL SPECIFICATIONS** ($T_{case} = 25^{\circ}\text{C}$)**STATIC**

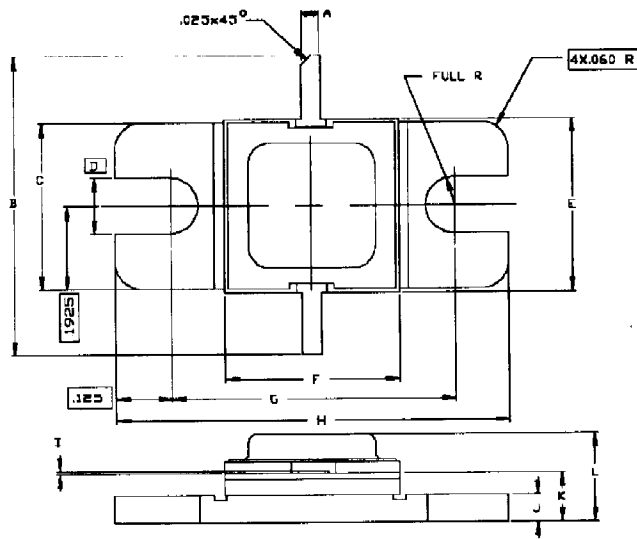
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 50\text{ mA}$	$I_E = 0\text{ mA}$	65	—	—	V
BV_{CES}	$I_C = 50\text{ mA}$	$V_{BE} = 0\text{ V}$	65	—	—	V
BV_{CEO}	$I_C = 50\text{ mA}$	$I_B = 0\text{ mA}$	28	—	—	V
BV_{EBO}	$I_E = 10\text{ mA}$	$I_C = 0\text{ mA}$	3.5	—	—	V
I_{CES}	$V_{CE} = 30\text{ V}$	$I_E = 0\text{ mA}$	—	—	7.5	mA
h_{FE}	$V_{CE} = 5\text{ V}$	$I_C = 5\text{ A}$	10	—	100	—

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 425\text{ MHz}$	$P_{IN} = 33.5\text{ W}$	$V_{CE} = 40\text{ V}$	300	—	—	W
P_G	$f = 425\text{ MHz}$	$P_{OUT} = 300\text{ W}$	$V_{CE} = 40\text{ V}$	9.5	—	—	dB
η_C	$f = 425\text{ MHz}$	$P_{IN} = 25\text{ W}$	$V_{CE} = 40\text{ V}$	55	—	—	%

Note: Pulse Width = 250 μ Sec. Duty Cycle = 10%**TYPICAL PERFORMANCE**

P_{OUT} (W)	P.W. (μ Sec)	D.C. (%)	T_J ($^{\circ}\text{C}$ max.)	V_{CC}
360	10	10	150	40
350	20	10	150	40
325	100	10	150	40
310	500	10	150	40
300	1000	10	150	40



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	.105/2,67	.125/3,18
B	.710/18,03		L		.230/5,84
C	.380/9,65	.390/9,91			
D	.130/3,30				
E	.392/9,96	.402/10,29			
F	.392/9,96	.402/10,29			
G	.645/16,38	.655/16,64			
H	.895/22,73	.905/22,99			
I	.002/0,05	.006/0,15			
J	.055/1,40	.065/1,65			