

New Jersey Semi-Conductor Products, Inc.

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COMPLEMENTARY SILICON TRANSISTORS

General Purpose use in power amplifier and switching circuits.

FEATURES:

*DC Current Gain Specified

HFE=20 - 80 @ $I_C = 1.0$ A

* Low Collector-Emitter Saturation Voltage -

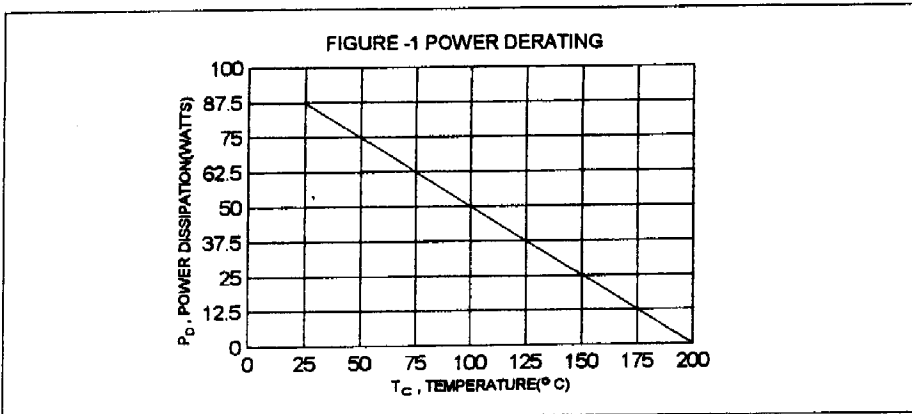
$V_{CE(sat)} = 1.5$ V (Max.) @ $I_C = 5.0$ A

MAXIMUM RATINGS

Characteristic	Symbol	2N4901 2N5067	2N4902 2N5068	2N4903 2N5069	Unit
Collector-Emitter Voltage	V_{CE0}	40	60	80	V
Collector-Emitter Voltage	V_{CEO}	40	60	80	V
Emitter-Base Voltage	V_{EB}	5.0			V
Collector Current-Continuous -Peak	I_C	5.0 10			A
Base current - Continuous	I_B	1.0			A
Total Power Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	87.5 0.5			W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	- 65 to +200			$^\circ\text{C}$

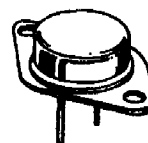
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	2.0	$^\circ\text{C}/\text{W}$

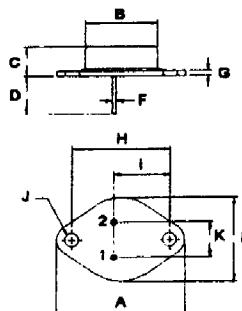


PNP	NPN
2N4901	2N5067
2N4902	2N5068
2N4903	2N5069

5.0 AMPERE
COMPLEMENTARY SILICON
POWER TRANSISTORS
40-80 Volts
87.5 Watts



TO-3



PIN 1. BASE
2. EMITTER
COLLECTOR(CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.68	4.36
K	10.67	11.18

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Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector - Emitter Sustaining Voltage (1) ($I_C = 200\text{ mA}$, $I_B = 0$) 2N4901,2N5067 2N4902,2N5068 2N4903,2N5069	$V_{CE(sus)}$	40 60 80		V
Collector Cutoff Current ($V_{CE} = \text{Rated } V_{CEO}$, $I_B = 0$)	I_{CEO}		1.0	mA
Collector Cutoff Current ($V_{CE} = \text{Rated } V_{CEO}$, $V_{BE(off)} = 1.5\text{ V}$) ($V_{CE} = \text{Rated } V_{CEO}$, $V_{BE(off)} = 1.5\text{ V}$, $T_c = 150^\circ\text{C}$)	I_{CEX}		0.1 2.0	mA
Collector Cutoff Current ($V_{CB} = \text{Rated } V_{CBO}$, $I_E = 0$)	I_{CBO}		0.1	mA
Emitter Cutoff Current ($V_{EB} = 5.0\text{ V}$, $I_C = 0$)	I_{EBO}		1.0	mA

ON CHARACTERISTICS (1)

DC Current Gain ($I_C = 1.0\text{ A}$, $V_{CE} = 2.0\text{ V}$) ($I_C = 5.0\text{ A}$, $V_{CE} = 2.0\text{ V}$)	h_{FE}	20 7.0	80	
Collector-Emitter Saturation Voltage ($I_C = 1.0\text{ A}$, $I_B = 0.1\text{ A}$) ($I_C = 5.0\text{ A}$, $I_B = 1.0\text{ A}$)	$V_{CE(sat)}$		0.4 1.5	V
Base-Emitter On Voltage ($I_C = 1.0\text{ A}$, $V_{CE} = 2.0\text{ V}$)	$V_{BE(on)}$		1.2	V

DYNAMIC CHARACTERISTICS

Current - Gain -Bandwidth Product (2) ($I_C = 1.0\text{ A}$, $V_{CE} = 10\text{ V}$, $f = 1.0\text{ MHz}$)	f_T	4.0		MHz
Small-Signal Current Gain ($I_C = 0.5\text{ A}$, $V_{CE} = 10\text{ V}$, $f = 1.0\text{ KHz}$)	h_{fe}	20		

(1) Pulse Test: Pulse width = 300 μs , Duty Cycle $\leq 2.0\%$

(2) $f_T = |h_{fe}| \cdot f_{test}$