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HIGH VOLTAGE NPN SILICON POWER TRANSISTORS

... designed for high voltage inverters, switching regulators and line operated amplifier applications.

FEATURES:

* Collector-Emitter Sustaining Voltage-

$V_{CE(sus)}$ = 250 V (Min) -2N6497
= 300 V (Min) -2N6498
= 350 V (Min) -2N6499

* DC Current Gain

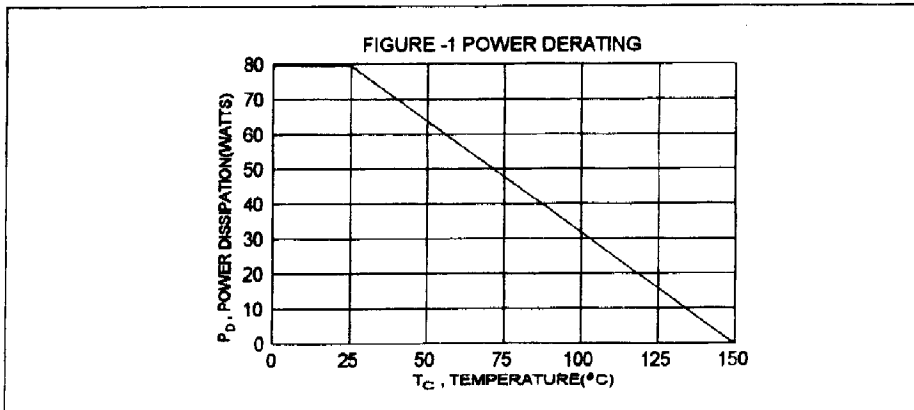
$hFE = 10-75 @ I_C = 2.5 A$

MAXIMUM RATINGS

Characteristic	Symbol	2N6497	2N6498	2N6499	Unit
Collector-Emitter Voltage	V_{CEO}	250	300	350	V
Collector-Base Voltage	V_{CBO}	350	400	450	V
Emitter-Base Voltage	V_{EBO}	6.0			V
Collector Current - Continuous - Peak	I_C	5.0 10			A
Base Current	I_B	2.0			A
Total Power Dissipation @ $T_C = 25^\circ C$ Derate above $25^\circ C$	P_D	80 0.64			W W/ $^\circ C$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150			$^\circ C$

THERMAL CHARACTERISTICS

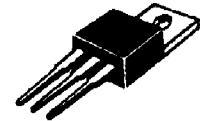
Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.56	$^\circ C/W$



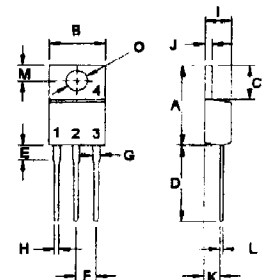
NPN
2N6497
2N6498
2N6499

5 AMPERE
POWER TRANSISTORS

250-350 Volts
80 Watts

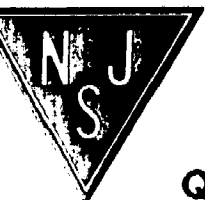


TO-220



PIN 1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR(CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90



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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) ($I_C = 25 \text{ mA}$, $I_B = 0$)	2N6497 2N6498 2N6499	$V_{CE(sus)}$	250 300 350	V
Collector Cutoff Current ($V_{CE} = 350 \text{ V}$, $V_{BE(off)} = 1.5 \text{ V}$) ($V_{CE} = 400 \text{ V}$, $V_{BE(off)} = 1.5 \text{ V}$) ($V_{CE} = 450 \text{ V}$, $V_{BE(off)} = 1.5 \text{ V}$) ($V_{CE} = 175 \text{ V}$, $V_{BE(off)} = 1.5 \text{ V}$, $T_c = 100^\circ\text{C}$) ($V_{CE} = 200 \text{ V}$, $V_{BE(off)} = 1.5 \text{ V}$, $T_c = 100^\circ\text{C}$) ($V_{CE} = 225 \text{ V}$, $V_{BE(off)} = 1.5 \text{ V}$, $T_c = 100^\circ\text{C}$)	2N6497 2N6498 2N6499 2N6497 2N6498 2N6499	I_{CEX}	1.0 1.0 1.0 10 10 10	mA
Emitter Cutoff Current ($V_{EB} = 6.0 \text{ V}$, $I_C = 0$)		I_{EBO}	1.0	mA

ON CHARACTERISTICS (1)

DC Current Gain ($I_C = 2.5 \text{ A}$, $V_{CE} = 10 \text{ V}$) ($I_C = 5.0 \text{ A}$, $V_{CE} = 10 \text{ V}$)		h_{FE}	10 3.0	75
Collector-Emitter Saturation Voltage ($I_C = 2.5 \text{ A}$, $I_B = 0.5 \text{ A}$) ($I_C = 5.0 \text{ A}$, $I_B = 2.0 \text{ A}$)	2N6497 2N6498 2N6499 All Devices	$V_{CE(sat)}$	1.0 1.25 1.5 5.0	V
Base-Emitter Saturation Voltage ($I_C = 2.5 \text{ A}$, $I_B = 0.5 \text{ A}$) ($I_C = 5.0 \text{ A}$, $I_B = 2.0 \text{ A}$)		$V_{BE(sat)}$	1.5 2.5	V

DYNAMIC CHARACTERISTICS

Current-Gain-Bandwidth Product (2) ($I_C = 250 \text{ mA}$, $V_{CE} = 10 \text{ V}$, $f = 1.0 \text{ MHz}$)	f_T	5.0		MHz
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SWITCHING CHARACTERISTICS

Rise Time	$V_{CC} = 125 \text{ V}$ $I_C = 2.5 \text{ A}$ $I_{B1} = -I_{B2} = 0.5 \text{ A}$ $t_p = 0.1 \text{ ms}$ Duty Cycle $\leq 2.0\%$	t_r	1.0	us
Storage Time		t_s	2.5	us
Fall Time		t_f	1.0	us

(1) Pulse Test: Pulse width = $300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$

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