

**SWITCHMODE SERIES
 NPN SILICON POWER TRANSISTORS**

The 2N6544 and 2N6545 transistors are designed for high-voltage, high-speed, power switching inductive circuits where fall time is critical. They are particularly suited for 115 and 220 volt line operated switch-mode applications such as:

- * Switching Regulators
- * PWM inverters and Motor Controls
- * Solenoid and Relay Drivers
- * Deflection Circuits

Specification Features-

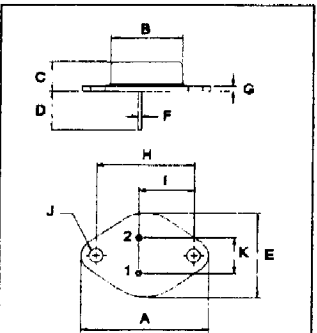
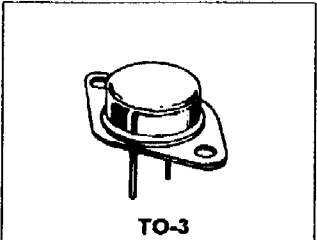
High Temperature Performance Specified for: Reversed Biased SOA with inductive loads Switching Times with Inductive Loads Saturation Voltages, Leakage Currents.

**NPN
 2N6544
 2N6545**

**8 AMPERE
 NPN SILICON
 POWER TRANSISTORS
 300 - 400 VOLTS
 125 WATTS**

MAXIMUM RATINGS

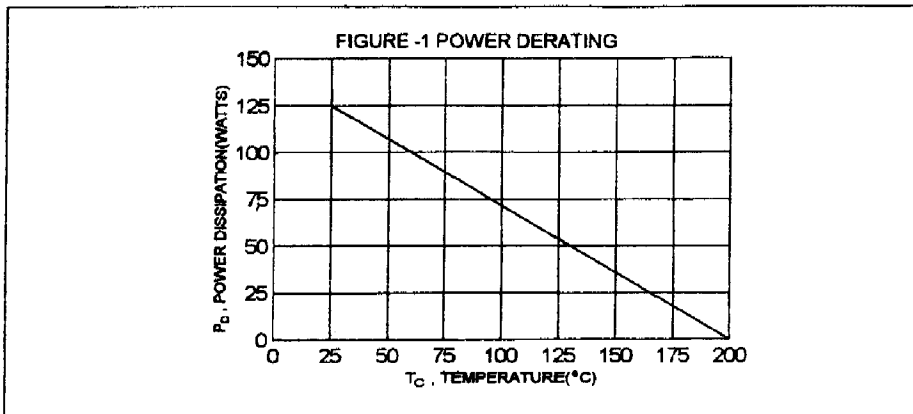
Characteristic	Symbol	2N6544	2N6545	Unit
Collector-Emitter Voltage	$V_{CE(sus)}$	300	400	V
Collector-Emitter Voltage	V_{CEV}	650	850	V
Collector-Base Voltage	V_{EBO}	9.0		V
Collector current - Continuous	I_C	8.0		A
- Peak	I_{CM}	16		
Base current - Continuous	I_B	8.0		A
Emitter current - Continuous	I_E	16		A
- Peak	I_{EM}	32		
Total Power Dissipation @ $T_C = 25^\circ C$ Derate above $25^\circ C$	P_D	125	0.714	W W/ $^\circ C$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	- 65 to +200		$^\circ C$



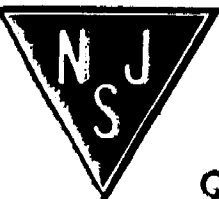
PIN 1 BASE
 2 EMITTER
 3 COLLECTOR(CASE)

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.4	$^\circ C/W$



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	3.88	4.36
K	10.67	11.18



NJ Semi-Conductors reserves the right to change test conditions, parameters 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.

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

Characteristic	Symbol	Min	Max	Unit
----------------	--------	-----	-----	------

OFF CHARACTERISTICS

Collector - Emitter Sustaining Voltage (1) ($I_C = 100\text{ mA}$, $I_B = 0$)	2N6544 2N6545	$V_{CE(sus)}$	300 400	V
Collector Cutoff Current ($V_{CEV} = 650\text{ V}$, $V_{BE(off)} = 1.5\text{ V}$) ($V_{CEV} = 850\text{ V}$, $V_{BE(off)} = 1.5\text{ V}$) ($V_{CEV} = 650\text{ V}$, $V_{BE(off)} = 1.5\text{ V}$, $T_c = 100^\circ\text{C}$) ($V_{CEV} = 850\text{ V}$, $V_{BE(off)} = 1.5\text{ V}$, $T_c = 100^\circ\text{C}$)	2N6544 2N6545 2N6544 2N6545	I_{CEV}	0.5 0.5 2.5 2.5	mA
Emitter Cutoff Current ($V_{EB} = 9.0\text{ V}$, $I_C = 0$)		I_{EBO}	1.0	mA

ON CHARACTERISTICS(1)

DC Current Gain ($I_C = 2.5\text{ A}$, $V_{CE} = 3.0\text{ V}$) ($I_C = 5.0\text{ A}$, $V_{CE} = 3.0\text{ V}$)		hFE	12 7.0	60 35	
Collector-Emitter Saturation Voltage ($I_C = 5.0\text{ A}$, $I_B = 1.0\text{ A}$) ($I_C = 8.0\text{ A}$, $I_B = 2.0\text{ A}$)		$V_{CE(sat)}$		1.5 5.0	V
Base-Emitter Saturation Voltage ($I_C = 5.0\text{ A}$, $I_B = 1.0\text{ A}$)		$V_{BE(sat)}$		1.6	V

DYNAMIC CHARACTERISTICS

Current - Gain - Bandwidth Product (2) ($I_C = 300\text{ mA}$, $V_{CE} = 10\text{ V}$, $f = 1.0\text{ MHz}$)		f_T	6.0	35	MHz
---	--	-------	-----	----	-----

SWITCHING CHARACTERISTICS

Delay Time	$V_{CC} = 250\text{ V}$ $I_C = 5.0\text{ A}$ $I_{B1} = -I_{B2} = 1.0\text{ A}$ $t_p = 0.1\text{ ms}$ Duty Cycle $\leq 2.0\%$	t_d		0.05	us
Rise Time		t_r		1.0	us
Storage Time		t_s		4.0	us
Fall Time		t_f		1.0	us

(1) Pulse Test: Pulse width = 300 us, Duty Cycle $\leq 2.0\%$ (2) $f_T = |h_{fe}| \cdot f_{test}$