

2N6249 – 2N6250 – 2N6251

HIGH VOLTAGE NPN SILICON POWER TRANSISTORS

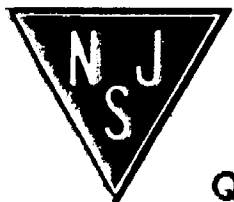
The 2N6249 – 2N6250 – 2N6251 are NPN silicon transistors in Jedec TO-3. They are designed for high voltage inverters, switching regulators and line operated amplifier applications. Especially well suited for switching power supply applications.

- High Voltage Breakdown Rating
- Low Saturation Voltages
- Fast Switching Capability
- High $E_{s/b}$ Energy Handling Capability

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CEO}	#Collector-Emitter Voltage (1)		200	V
			275	
			350	
V_{CER}	#Collector-Emitter Voltage (1)	$R_{BE}=50\Omega$	225	V
			300	
			375	
V_{CB}	Collector-Base Voltage (1)		300	Vdc
			375	
			450	
V_{EB}	Emitter-Base Voltage		6.0	Vdc
I_C	Collector Current	Continuous (1)	2N6249	15
			2N6250	
			2N6251	
		Peak	2N6249	30
			2N6250	
			2N6251	
I_B	Base Current	Continuous (1)	2N6249	10
			2N6250	
			2N6251	
		Peak	2N6249	20
			2N6250	
			2N6251	
I_E	Emitter Current	Continuous	2N6249	25
			2N6250	
			2N6251	
		Peak	2N6249	50
			2N6250	
			2N6251	

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.



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P_t	Total Power Dissipation	@ T _C = 25°	2N6249 2N6250 2N6251	175	Watts
		@ T _C = 100°	2N6249 2N6250 2N6251	100	
		Derate above 25° (1)	2N6249 2N6250 2N6251	1.0	
T_J	Junction Temperature (1)		2N6249 2N6250 2N6251	-65 to +200	°C
T_{stg}	Storage Temperature (1)		2N6249 2N6250 2N6251	-65 to +200	°C

(1) This data guaranteed in addition to JEDEC registered data.

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Thermal Resistance, Junction to Case	2N6249 2N6250 2N6251	1 °C/W
T_L	Maximum Lead Temperature for Soldering Purposes : 1/8" from Case for 5 Secondes	2N6249 2N6250 2N6251	275 °C

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
V_{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C =200 mAdc, I _B =0	2N6249 2N6250 2N6251	200 275 350	- - -	Vdc	
		Collector-Emitter Sustaining Voltage	I _C =0.2 Adc, R _{BE} =50Ω	2N6249 2N6250 2N6251	225 300 375	- - -	V
			Collector-Emitter Current	V _{CE} =150 Vdc, I _B =0	2N6249 2N6250 2N6251	- - -	- - -
Collector Cutoff Current	V _{CE} =225 Vdc, V _{EB(off)} =1.5 Vdc			2N6249	-	-	5.0
	V _{CE} =225 Vdc, V _{EB(off)} =1.5 Vdc, T _C = 150°C	-			-	10	
	V _{CE} =300 Vdc, V _{EB(off)} =1.5 Vdc	-	-		5.0		
	V _{CE} =300 Vdc, V _{EB(off)} =1.5 Vdc, T _C = 150°C	2N6250	-	-	10		
	V _{CE} =375 Vdc, V _{EB(off)} =1.5 Vdc		-	-	5.0		
	V _{CE} =375 Vdc, V _{EB(off)} =1.5 Vdc, T _C = 150°C		2N6251	-	-	10	

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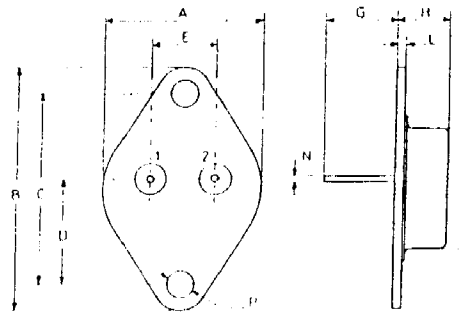
I_{EBO}	Emitter Cutoff Current	$V_{BE}=6.0$ Vdc, $I_C=0$	2N6249 2N6250 2N6251	-	-	1.0	mAdc
$I_{s/b}$	Second Breakdown Collector Current with base forward biased $t=1.0$ S non-repetitive	$V_{CE}=30$ Vdc	2N6249 2N6250 2N6251	5.8 5.8 5.8	- - -	- - -	Vdc
$E_{s/b}$	Second Breakdown Energy with base reverse biased $t=1.0$ S non-repetitive	$I_C=10$ A, $V_{BE(off)}=4.0$ Vdc, $L=50$ μ H	2N6249 2N6250 2N6251	2.5 2.5 2.5	- - -	- - -	mJ
h_{FE}	DC Current Gain	$I_C=10$ Adc, $V_{CE}=3.0$ Vdc	2N6249 2N6250 2N6251	10 8.0 6.0	- - -	50 50 50	-
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (1)	$I_C=10$ Adc, $I_B=1$ Adc $I_C=10$ Adc, $I_B=1.25$ Adc $I_C=10$ Adc, $I_B=1.67$ Adc	2N6249 2N6250 2N6251	- - -	- - -	1.5 1.5 1.5	Vdc
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (1)	$I_C=10$ Adc, $I_B=1$ Adc $I_C=10$ Adc, $I_B=1.25$ Adc $I_C=10$ Adc, $I_B=1.67$ Adc	2N6249 2N6250 2N6251	- - -	- - -	2.5 2.5 2.5	Vdc

(1) Measured on a curve tracer (60 Hz full-wave rectified sine wave).

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
f_T	Current Gain – Bandwidth Product	$V_{CE}=10$ Vdc, $I_C=1.0$ Adc, $f_{test}=1.0$ Mhz	2.5	-	-	MHz
t_r	Rise Time	$I_{B1}=I_{B2}=1.0$ Adc	-	-	2.0	μ s
t_s	Storage Time	$I_{B1}=I_{B2}=1.25$ Adc	-	-	3.5	
t_f	Fall Time	$I_{B1}=I_{B2}=1.67$ Adc	-	-	1.0	

MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector