

NJD2873T4

Plastic Power Transistors

NPN Silicon DPAK For Surface Mount Applications

... designed for high-gain audio amplifier applications.

- High DC Current Gain -
 $h_{FE} = 120 \text{ (Min) @ } I_C = 500 \text{ mA}$
 $= 40 \text{ (Min) @ } I_C = 2 \text{ A}$
- Low Collector-Emitter Saturation Voltage -
 $V_{CE(sat)} = 0.3 \text{ Vdc (Max) @ } I_C = 1 \text{ A}$
- High Current-Gain - Bandwidth Product -
 $f_T = 65 \text{ MHz (Min) @ } I_C = 100 \text{ mA}$

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Base Voltage	V_{CB}	50	Vdc
Collector-Emitter Voltage	V_{CEO}	50	Vdc
Emitter-Base Voltage	V_{EB}	5	Vdc
Collector Current	I_C	2	Adc
Continuous Peak		3	
Base Current	I_B	0.4	Adc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	12.5 0.1	W W/ $^\circ\text{C}$
Total Device Dissipation @ $T_A = 25^\circ\text{C}^*$ Derate above 25°C	P_D	1.4 0.011	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	- 65 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance	$R_{\theta JC}$ $R_{\theta JA}$	10	$^\circ\text{C/W}$
Junction to Case Junction to Ambient*		89.3	

*When surface mounted on minimum pad sizes recommended.

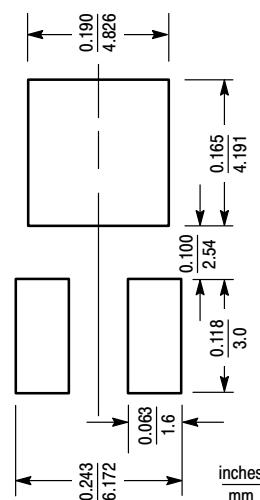


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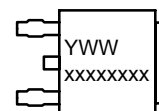
SILICON POWER TRANSISTORS 2 A, 50 V, 12.5 W

MINIMUM PAD SIZES RECOMMENDED FOR SURFACE MOUNTED APPLICATIONS



DPAK
CASE 369A

MARKING DIAGRAM



xxxxxxx = Specific Device Code
Y = Year
WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping
NJD2873T4	DPAK	2500 Units / Reel

NJD2873T4

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 (Note 1) ($I_C = 10 \text{ mAdc}$, $I_B = 0$)	$V_{CEO(sus)}$	50	-	Vdc
Collector Cutoff Current ($V_{CB} = 50 \text{ Vdc}$, $I_E = 0$)	I_{CBO}	-	100	nAdc
Emitter Cutoff Current ($V_{BE} = 5 \text{ Vdc}$, $I_C = 0$)	I_{EBO}	-	100	nAdc

ON CHARACTERISTICS

DC Current Gain (Note 2) ($I_C = 0.5 \text{ A}$, $V_{CE} = 2 \text{ V}$) ($I_C = 2 \text{ Adc}$, $V_{CE} = 2 \text{ Vdc}$)	h_{FE}	120 40	360 -	-
Collector-Emitter Saturation Voltage (Note 2) ($I_C = 1 \text{ A}$, $I_B = 0.05 \text{ A}$)	$V_{CE(sat)}$	-	0.3	Vdc
Base-Emitter Saturation Voltage (Note 1) ($I_C = 1 \text{ A}$, $I_B = 0.05 \text{ Adc}$)	$V_{BE(sat)}$	-	1.2	Vdc
Base-Emitter On Voltage (Note 1) ($I_C = 1 \text{ Adc}$, $V_{CE} = 2 \text{ Vdc}$)	$V_{BE(on)}$	-	1.2	Vdc

DYNAMIC CHARACTERISTICS

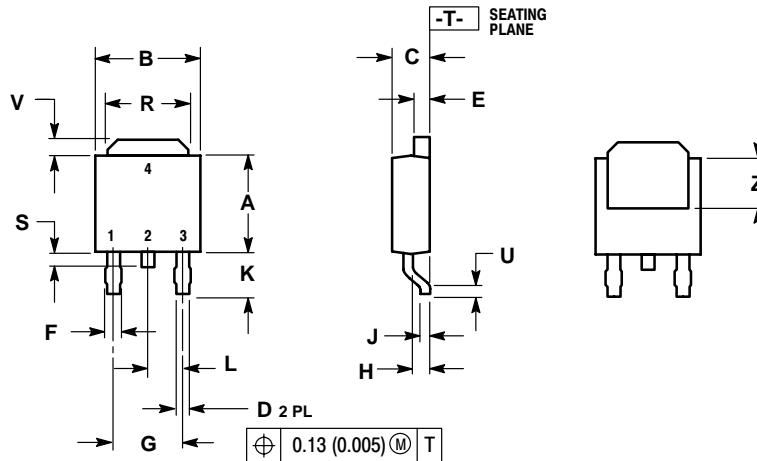
Current-Gain - Bandwidth Product (Note 3) ($I_C = 100 \text{ mAdc}$, $V_{CE} = 10 \text{ Vdc}$, $f_{test} = 10 \text{ MHz}$)	f_T	65	-	MHz
Output Capacitance ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 0.1 \text{ MHz}$)	C_{ob}	-	80	pF

1. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\approx 2\%$.
2. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\approx 2\%$.
3. $f_T = |h_{fe}| \cdot f_{test}$.

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PACKAGE DIMENSIONS


DPAK
CASE 369A-13
ISSUE AB



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.235	0.250	5.97	6.35
B	0.250	0.265	6.35	6.73
C	0.086	0.094	2.19	2.38
D	0.027	0.035	0.69	0.88
E	0.033	0.040	0.84	1.01
F	0.037	0.047	0.94	1.19
G	0.180 BSC		4.58 BSC	
H	0.034	0.040	0.87	1.01
J	0.018	0.023	0.46	0.58
K	0.102	0.114	2.60	2.89
L	0.090 BSC		2.29 BSC	
R	0.175	0.215	4.45	5.46
S	0.020	0.050	0.51	1.27
U	0.020	----	0.51	----
V	0.030	0.050	0.77	1.27
Z	0.138	----	3.51	----

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