

NJD2873T4

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)



ON Semiconductor®

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Plastic Power Transistors

NPN Silicon DPAK For Surface Mount Applications

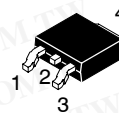
Designed for high-gain audio amplifier applications.

Features

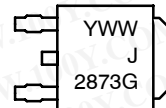
- Pb-Free Package is Available
- High DC Current Gain –
 $h_{FE} = 120$ (Min) @ $I_C = 500$ mA
 $= 40$ (Min) @ $I_C = 2$ A
- Low Collector-Emmitter Saturation Voltage –
 $V_{CE(sat)} = 0.3$ Vdc (Max) @ $I_C = 1$ A
- High Current-Gain – Bandwidth Product –
 $f_T = 65$ MHz (Min) @ $I_C = 100$ mA
- Epoxy Meets UL 94 V-0 @ 0.125 in
- ESD Ratings: Human Body Model, 3B > 8000 V
 Machine Model, C > 400 V

**SILICON
 POWER TRANSISTORS
 2 AMPERES
 50 VOLTS
 15 WATTS**

MARKING DIAGRAM



**DPAK
 CASE 369C
 STYLE 1**



Y = Year
 WW = Work Week
 G = Pb-Free Device

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Base Voltage	V_{CB}	50	Vdc
Collector-Emmitter Voltage	V_{CEO}	50	Vdc
Emmitter-Base Voltage	V_{EB}	5	Vdc
Collector Current	I_C	2 3	Adc Peak
Base Current	I_B	0.4	Adc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	15 0.1	W W/ $^\circ\text{C}$
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ * Derate above 25°C	P_D	1.68 0.011	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

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

*These ratings are applicable when surface mounted on the minimum pad sizes recommended.

ORDERING INFORMATION

Device	Package	Shipping†
NJD2873	DPAK	75 Units / Rail
NJD2873G	DPAK (Pb-Free)	75 Units / Rail
NJD2873RL	DPAK	1800 Units / Reel
NJD2873RLG	DPAK (Pb-Free)	1800 Units / Reel
NJD2873T4	DPAK	2500 Units / Reel
NJD2873T4G	DPAK (Pb-Free)	2500 Units / Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

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ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Sustaining Voltage (Note 1) (I _C = 10 mAdc, I _B = 0)	V _{CEO(sus)}	50	-	Vdc
Collector Cutoff Current (V _{CB} = 50 Vdc, I _E = 0)	I _{CBO}	-	100	nAdc
Emitter Cutoff Current (V _{BE} = 5 Vdc, I _C = 0)	I _{EBO}	-	100	nAdc

ON CHARACTERISTICS

DC Current Gain (Note 1) (I _C = 0.5 A, V _{CE} = 2 V) (I _C = 2 Adc, V _{CE} = 2 Vdc) (I _C = 0.75 Adc, V _{CE} = 1.6 Vdc, -40°C ≤ T _J ≤ 150°C)	h _{FE}	120 40 80	360 - 360	-
Collector-Emitter Saturation Voltage (Note 1) (I _C = 1 A, I _B = 0.05 A)	V _{CE(sat)}	-	0.3	Vdc
Base-Emitter Saturation Voltage (Note 1) (I _C = 1 A, I _B = 0.05 Adc)	V _{BE(sat)}	-	1.2	Vdc
Base-Emitter On Voltage (Note 1) (I _C = 1 Adc, V _{CE} = 2 Vdc) (I _C = 0.75 Adc, V _{CE} = 1.6 Vdc, -40°C ≤ T _J ≤ 150°C)	V _{BE(on)}	- -	1.2 0.95	Vdc

DYNAMIC CHARACTERISTICS

Current-Gain - Bandwidth Product (Note 2) (I _C = 100 mAdc, V _{CE} = 10 Vdc, f _{test} = 10 MHz)	f _T	65	-	MHz
Output Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 0.1 MHz)	C _{ob}	-	80	pF

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≈ 2%.
2. f_T = |h_{fe}| • f_{test}.

TYPICAL CHARACTERISTICS

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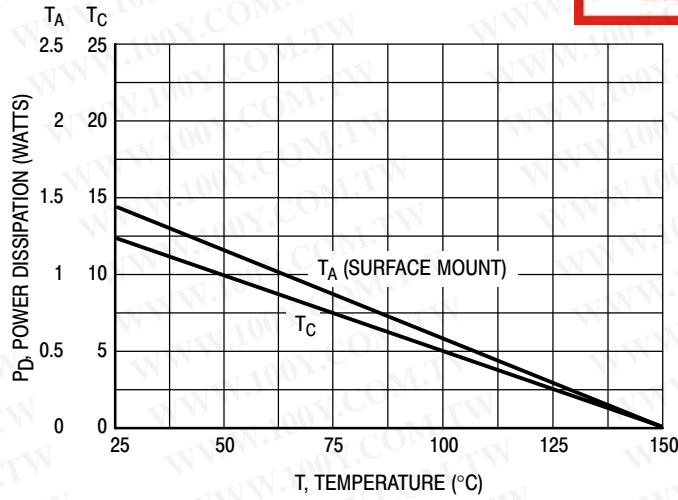


Figure 1. Power Derating

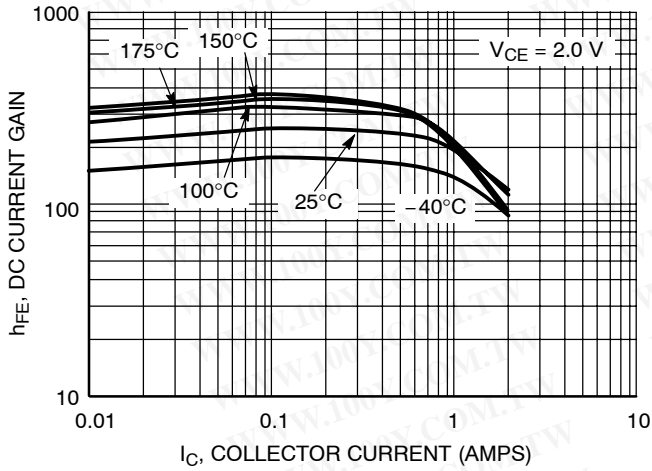


Figure 2. DC Current Gain

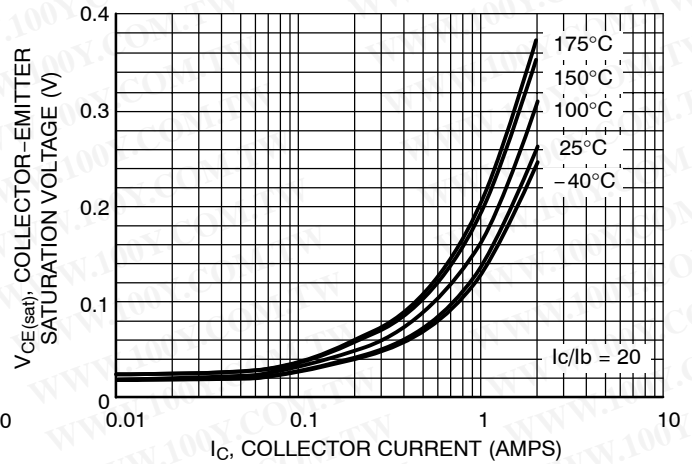


Figure 3. Collector-Emitter Saturation Voltage

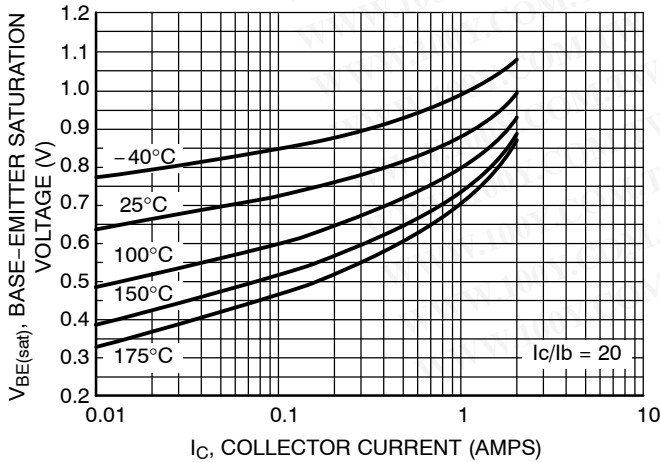


Figure 4. Base-Emitter Saturation Voltage

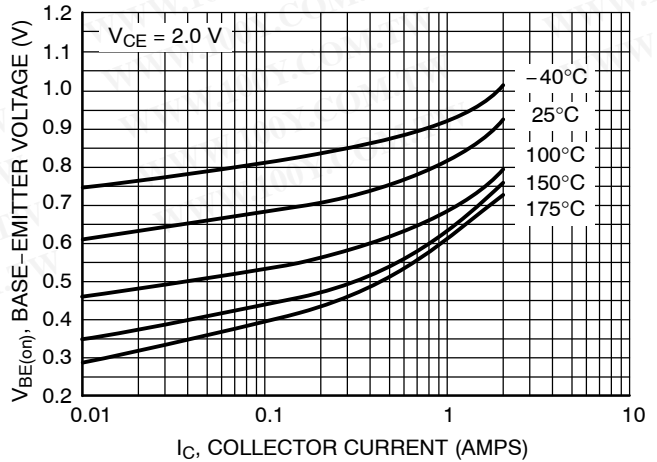


Figure 5. Base-Emitter Voltage

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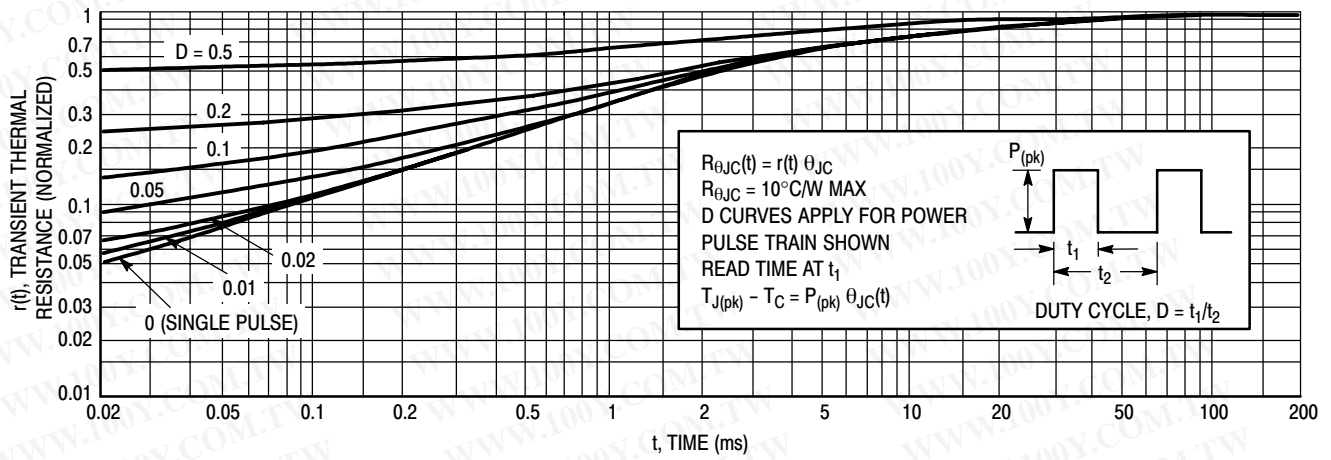


Figure 6. Thermal Response

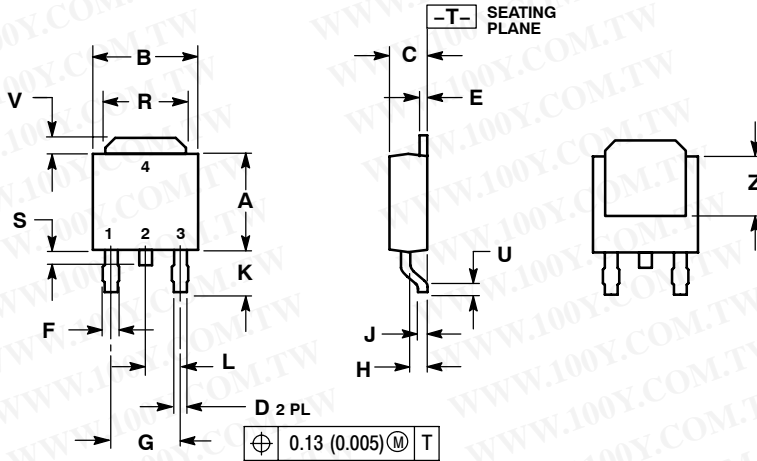
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PACKAGE DIMENSIONS

DPAK
CASE 369C-01
ISSUE O

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NOTES:

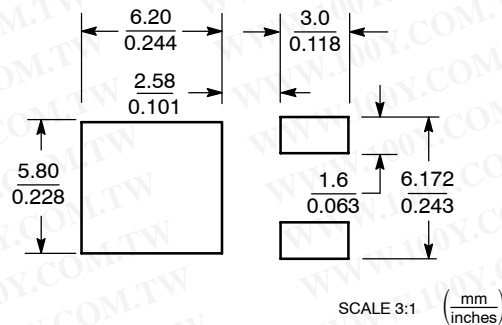
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.235	0.245	5.97	6.22
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	0.018	0.023	0.46	0.58
F	0.037	0.045	0.94	1.14
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	0.180	0.215	4.57	5.45
S	0.025	0.040	0.63	1.01
U	0.020	---	0.51	---
V	0.035	0.050	0.89	1.27
Z	0.155	---	3.93	---

STYLE 1:

- PIN 1. BASE
- COLLECTOR
- EMITTER
- COLLECTOR

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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