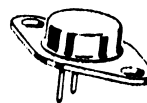


New Jersey Semi-Conductor Products, Inc.

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2N5428
thru
2N5430



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*MAXIMUM RATINGS				
Rating	Symbol	2N5428	2N5429 2N5430	Unit
Collector-Emitter Voltage	V_{CE}	80	100	Vdc
Collector-Base Voltage	V_{CB}	80	100	Vdc
Emitter-Base Voltage	V_{EB}	60		Vdc
Collector Current - Continuous	I_C	7.0		Ade
Base Current	I_B	1.0		Ade
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	40 228		Watts mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		$^\circ\text{C}$
THERMAL CHARACTERISTICS				
Characteristic	Symbol	Max		Unit
Thermal Resistance, Junction to Case	θ_{JC}	4.37		$^\circ\text{C/W}$
* Indicates JEDEC Registered Data				

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

Characteristic	Fig. No.	Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage (1) ($I_C = 50 \text{ mAde}, I_B = 0$)	2N5428 2N5429, 2N5430	$V_{CE(sus)}^*$	80 100	-	Vdc
Collector Cutoff Current ($V_{CE} = 75 \text{ Vdc}, I_B = 0$)	2N5428	I_{CEO}	-	100	μAde
($V_{CE} = 90 \text{ Vdc}, I_B = 0$)	2N5429, 2N5430		-	100	
Collector Cutoff Current ($V_{CE} = 75 \text{ Vdc}, V_{EB}(\text{off}) = 1.5 \text{ Vdc}$)	2N5428	I_{CEX}	-	10	μAde
($V_{CE} = 90 \text{ Vdc}, V_{EB}(\text{off}) = 1.5 \text{ Vdc}$)	2N5429, 2N5430		-	10	
($V_{CE} = 75 \text{ Vdc}, V_{EB}(\text{off}) = 1.5 \text{ Vdc}, T_C = 150^\circ\text{C}$)	2N5428		-	1.0	mAde
($V_{CE} = 90 \text{ Vdc}, V_{EB}(\text{off}) = 1.5 \text{ Vdc}, T_C = 150^\circ\text{C}$)	2N5429, 2N5430		-	1.0	
Collector Cutoff Current ($V_{CB} = \text{Rated } V_{CB}, I_E = 0$)		I_{CBO}	-	10	μAde
Emitter Cutoff Current ($V_{BE} = 6.0 \text{ Vdc}, I_C = 0$)		I_{EBO}	-	100	μAde

ON CHARACTERISTICS (1)

DC Current Gain ($I_C = 500 \text{ mAde}, V_{CE} = 2.0 \text{ Vdc}$)	2N5429 2N5428, 2N5430	h_{FE}^*	30 60	-	-
($I_C = 2.0 \text{ Ade}, V_{CE} = 2.0 \text{ Vdc}$)	2N5429		30	120	
($I_C = 5.0 \text{ Ade}, V_{CE} = 2.0 \text{ Vdc}$)	2N5428, 2N5430		60 20 40	240	
Collector-Emitter Saturation Voltage ($I_C = 2.0 \text{ Ade}, I_B = 0.2 \text{ Ade}$)	9, 11, 13	$V_{CE(sat)}^*$	-	0.7	Vdc
($I_C = 7.0 \text{ Ade}, I_B = 0.7 \text{ Ade}$)			-	1.2	
Base-Emitter Saturation Voltage ($I_C = 2.0 \text{ Ade}, I_B = 0.2 \text{ Ade}$)	11, 13	$V_{BE(sat)}^*$	-	1.2	Vdc
($I_C = 7.0 \text{ Ade}, I_B = 0.7 \text{ Ade}$)			-	2.0	

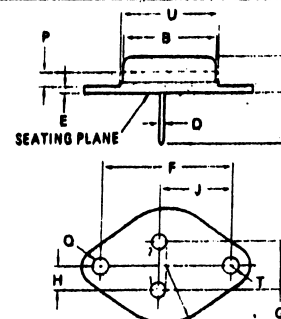
DYNAMIC CHARACTERISTICS

Current Gain-Bandwidth Product ($I_C = 500 \text{ mAde}, V_{CE} = 10 \text{ Vdc}, f = 10 \text{ MHz}$)		f_T	30	-	MHz
Output Capacitance ($V_{CB} = 10 \text{ Vdc}, I_E = 0, f = 100 \text{ kHz}$)	7	C_{ob}	-	250	pF
Input Capacitance ($V_{BE} = 2.0 \text{ Vdc}, I_C = 0, f = 100 \text{ kHz}$)	7	C_{ib}	-	1,000	pF

SWITCHING CHARACTERISTICS

Delay Time ($V_{CC} = 40 \text{ Vdc}, V_{EB}(\text{off}) = 3.0 \text{ Vdc}$)	2, 3	t_d	-	100	ns
Rise Time ($I_C = 2.0 \text{ Ade}, I_B = 200 \text{ mAde}$)		t_r	-	100	ns
Storage Time ($V_{CC} = 40 \text{ Vdc}, I_C = 2.0 \text{ Ade}$)	2, 6	t_s	-	2.0	μs
Fall Time ($I_{B1} = I_{B2} = 200 \text{ mAde}$)		t_f	-	200	ns

* Indicates JEDEC Registered Data (1) Pulse Test: Pulse Width $\approx 300 \mu\text{s}$, Duty Cycle $\approx 2.0\%$.

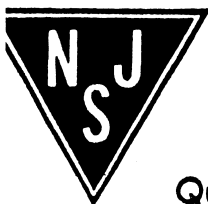


STYLE 1:
PIN 1. BASE
2. EMITTER
CASE: COLLECTOR

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
B	11.94	12.70	0.470	0.500
C	8.38	8.64	0.330	0.340
D	0.71	0.88	0.028	0.034
E	1.27	1.81	0.050	0.071
F	24.33	24.43	0.958	0.962
G	4.93	5.33	0.190	0.210
H	2.41	2.67	0.095	0.105
J	14.48	14.99	0.570	0.590
K	9.14	-	0.360	-
P	-	1.27	-	0.050
Q	3.81	3.96	0.142	0.152
S	-	8.89	-	0.350
T	-	3.68	-	0.145
U	-	18.75	-	0.720

All JEDEC Dimensions and Notes Apply.

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Quality Semi-Conductors