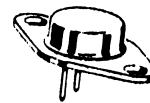


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**2N5428**  
 thru  
**2N5430**



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*MAXIMUM RATINGS				
Rating	Symbol	2N5428	2N5429 2N5430	Unit
Collector-Emitter Voltage	V <sub>CEO</sub>	80	100	Vdc
Collector-Base Voltage	V <sub>CB</sub>	80	100	Vdc
Emitter-Base Voltage	V <sub>EB</sub>	6.0		Vdc
Collector Current - Continuous	I <sub>C</sub>	7.0		A <sub>dc</sub>
Base Current	I <sub>B</sub>	1.0		A <sub>dc</sub>
Total Device Dissipation @ T <sub>C</sub> = 25°C Derate above 25°C	P <sub>D</sub>	40	228	Watts mW/°C
Operating and Storage Junction Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200		°C
THERMAL CHARACTERISTICS				
Characteristic	Symbol	Max	Unit	
Thermal Resistance, Junction to Case	θ <sub>JC</sub>	4.37	°C/W	

\* Indicates JEDEC Registered Data

\*ELECTRICAL CHARACTERISTICS (T<sub>C</sub> = 25°C, unless otherwise noted)

Characteristic	Fig. No.	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>					
Collector-Emitter Sustaining Voltage (1) (I <sub>C</sub> = 50 mA <sub>dc</sub> , I <sub>B</sub> = 0)		V <sub>CEO(sus)</sub> *	80	-	Vdc
	2N5428, 2N5430		100	-	
Collector Cutoff Current (V <sub>CE</sub> = 75 Vdc, I <sub>B</sub> = 0)		I <sub>CEO</sub>	-	100	μA <sub>dc</sub>
	2N5428, 2N5430		-	100	
Collector Cutoff Current (V <sub>CE</sub> = 90 Vdc, I <sub>B</sub> = 0)	12	I <sub>CEx</sub>	-	10	μA <sub>dc</sub>
	2N5428, 2N5430		-	10	
Collector Cutoff Current (V <sub>CE</sub> = 75 Vdc, V <sub>EB(off)</sub> = 1.5 Vdc, T <sub>C</sub> = 150°C)		I <sub>CEx</sub>	-	1.0	mA <sub>dc</sub>
	2N5428, 2N5430		-	1.0	
Collector Cutoff Current (V <sub>CB</sub> = Rated V <sub>CB</sub> , I <sub>E</sub> = 0)		I <sub>CBO</sub>	-	10	μA <sub>dc</sub>
Emitter Cutoff Current (V <sub>BE</sub> = 6.0 Vdc, I <sub>C</sub> = 0)		I <sub>EBO</sub>	-	100	μA <sub>dc</sub>

**ON CHARACTERISTICS (1)**

DC Current Gain (I <sub>C</sub> = 500 mA <sub>dc</sub> , V <sub>CE</sub> = 2.0 Vdc)	8	h <sub>FE</sub> *	30	-	-
	2N5428, 2N5430		60	-	
	2N5428, 2N5430		30	120	
	2N5428, 2N5430		60	240	
	2N5428, 2N5430		20	-	
	2N5428, 2N5430		40	-	
Collector-Emitter Saturation Voltage (I <sub>C</sub> = 2.0 A <sub>dc</sub> , I <sub>B</sub> = 0.2 A <sub>dc</sub> )	9, 11, 13	V <sub>CE(sat)</sub> *	-	0.7	Vdc
			-	1.2	
Base-Emitter Saturation Voltage (I <sub>C</sub> = 2.0 A <sub>dc</sub> , I <sub>B</sub> = 0.2 A <sub>dc</sub> )	11, 13	V <sub>BE(sat)</sub> *	-	1.2	Vdc
			-	2.0	

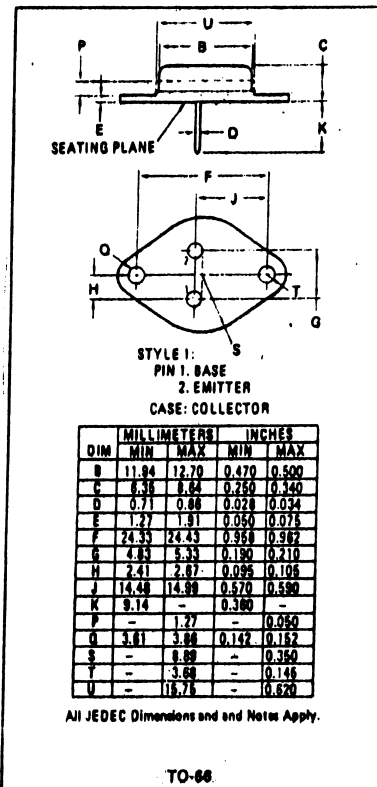
**DYNAMIC CHARACTERISTICS**

Current-Gain-Bandwidth Product (I <sub>C</sub> = 500 mA <sub>dc</sub> , V <sub>CE</sub> = 10 Vdc, f = 10 MHz)		f <sub>T</sub>	30	-	MHz
Output Capacitance (V <sub>CB</sub> = 10 Vdc, I <sub>E</sub> = 0, f = 100 kHz)	7	C <sub>ob</sub>	-	250	pF
Input Capacitance (V <sub>BE</sub> = 2.0 Vdc, I <sub>C</sub> = 0, f = 100 kHz)	7	C <sub>ib</sub>	-	1,000	pF

**SWITCHING CHARACTERISTICS**

Delay Time (V <sub>CC</sub> = 40 Vdc, V <sub>EB(off)</sub> = 3.0 Vdc)	2, 3	t <sub>d</sub>	-	100	ns
Rise Time (I <sub>C</sub> = 2.0 A <sub>dc</sub> , I <sub>B1</sub> = 200 mA <sub>dc</sub> )		t <sub>r</sub>	-	100	ns
Storage Time (V <sub>CC</sub> = 40 Vdc, I <sub>C</sub> = 2.0 A <sub>dc</sub> )	2, 6	t <sub>s</sub>	-	2.0	μs
Fall Time (I <sub>B1</sub> = I <sub>B2</sub> = 200 mA <sub>dc</sub> )		t <sub>f</sub>	-	200	ns

\*Indicates JEDEC Registered Data (1) Pulse Test: Pulse Width ≈ 300 μs, Duty Cycle ≈ 2.0%.



Quality Semi-Conductors