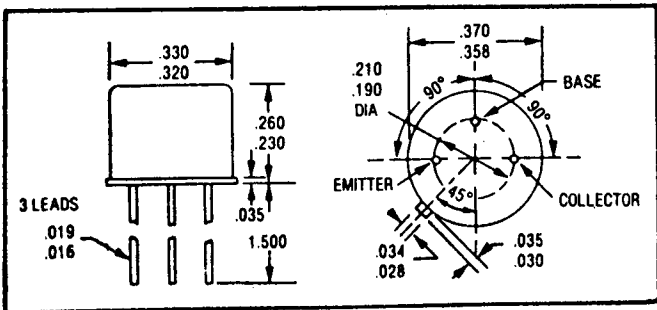


X60253

<h1 style="margin: 0;">2N4300</h1> <h2 style="margin: 0;">2 AMP</h2> <h3 style="margin: 0;">HIGH SPEED NPN TRANSISTOR</h3> <h3 style="margin: 0;">100 VOLTS</h3>	
	<p>14830 Valley View Avenue La Mirada, California 90638 P. O. Box 577 La Mirada, California 90637 (213) 921-9660 TWX 910-583-4807</p>

CASE STYLE W
JEDEC TO-5

FEATURES



- RADIATION TOLERANT
- FAST SWITCHING, 130 NSEC MAX t_{on}
- HIGH FREQUENCY, TYPICAL f_T 100 MHZ
- V_{CE0} 80 VOLTS MIN.
- LOW SATURATION VOLTAGE
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH
- DESIGNED FOR COMPLEMENTARY USE WITH 2N5333

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector - Emitter Voltage	V_{CE0}	80	Volts
Collector - Base Voltage	V_{CB0}	100	Volts
Emitter - Base Voltage	V_{EB0}	8	Volts
Collector Current	I_C	2	Amps
Base Current	I_B	1	Amps
Total Device Dissipation @ $T_C = 100^\circ C$	P_D	15	Watts
Derate above 100 °C		150	mW/°C
Operating and Storage Temperature	T_j, T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	6.66	°C/W

ELECTRICAL CHARACTERISTICS

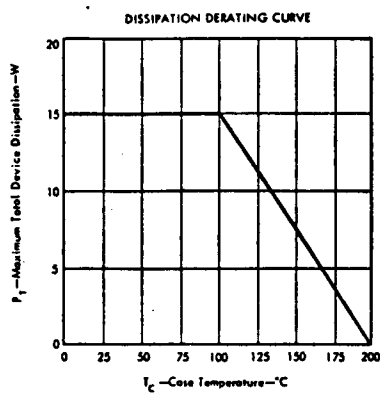
Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* ($I_C = 30$ mA)	BV_{CE0}	80		Vdc
Collector - Base Breakdown Voltage ($I_C = 200$ μ A)	BV_{CB0}	100		Vdc
Emitter - Base Breakdown Voltage ($I_E = 200$ μ A)	BV_{EB0}	8		Vdc

ELECTRICAL CHARACTERISTICS

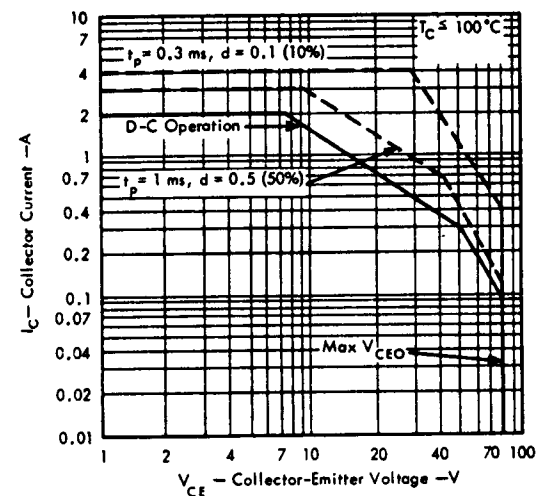
Characteristics	Symbol	Min.	Max.	Unit
Collector Cutoff Current ($V_{CE} = 90 \text{ Vdc}$) $T_A = 25^\circ\text{C}$ $T_C = 150^\circ\text{C}$	I_{CES}		10 75	μA
Collector Cutoff Current ($V_{CE} = 40 \text{ Vdc}$)	I_{CEO}		1	μA
Emitter Cutoff Current ($V_{EB} = 5 \text{ Vdc}$) ($V_{EB} = 8 \text{ Vdc}$)	I_{EBO}		0.5 10	μA
DC Current Gain* ($I_C = 1 \text{ Adc}, V_{CE} = 2 \text{ Vdc}$) ($I_C = 2 \text{ Adc}, V_{CE} = 2 \text{ Vdc}$)	h_{FE}	30 15	120	
Collector - Emitter Saturation Voltage* ($I_C = 1 \text{ mAdc}, I_B = 100 \text{ mAdc}$) ($I_C = 2 \text{ Adc}, I_B = 200 \text{ mAdc}$)	$V_{CE(SAT)}$		0.3 0.5	Vdc
Base - Emitter Voltage* ($I_C = 2 \text{ Adc}, V_{CE} = 2 \text{ Vdc}$)	$V_{BE(ON)}$ *		1.2	Vdc
Current - Gain - Bandwidth Product ($I_C = 1 \text{ Adc}, V_{CE} = 10 \text{ Vdc}, f = 15 \text{ MHz}$)	f_T	30		MHz
Output Capacitance ($V_{CB} = 30 \text{ Vdc}, I_E = 0, f = 1 \text{ MHz}$)	C_{ob}		45	pf
Input Capacitance ($V_{BE} = 8 \text{ Vdc}, I_C = 0, f = 1 \text{ MHz}$)	C_{ib}		225	pf
Delay Time ($V_{CC} = 20 \text{ Vdc}$)	t_d		130	ns
Rise Time ($I_C = 1 \text{ Adc}$)	t_r +			
Storage Time ($V_{EB(off)} = 3.7 \text{ Vdc}$)	t_s +		1.5	us
Fall Time ($I_{B1} = I_{B2} = 100 \text{ mAdc}, R_L = 20 \text{ Ohms}$)	t_f +			

*Pulse Test: Pulse width = 300 us, DutyCycle = 2%

TYPICAL OPERATING CURVES



FORWARD BIAS DC SAFE OPERATION AREA (S.O.A.) CURVE
CURVES APPLY BELOW RATED V_{CEO} $T_C = 25^\circ\text{C}$



SSDI

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