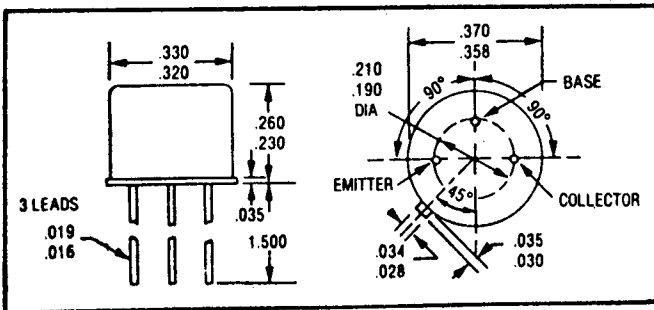


X60253

2N4300**2 AMP****HIGH SPEED NPN TRANSISTOR
100 VOLTS****SSDII**14830 Valley View Avenue
La Mirada, California 90638
P. O. Box 577
La Mirada, California 90637
(213) 921-9660
TWX 910-583-4807**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 @ $T_C = 100^\circ\text{C}$	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* ($I_C = 30 \text{ mA}$)	BV_{CE0}	80		Vdc
Collector - Base Breakdown Voltage ($I_C = 200 \text{ uA}$)	BV_{CB0}	100		Vdc
Emitter - Base Breakdown Voltage ($I_E = 200 \text{ uA}$)	BV_{EB0}	8		Vdc

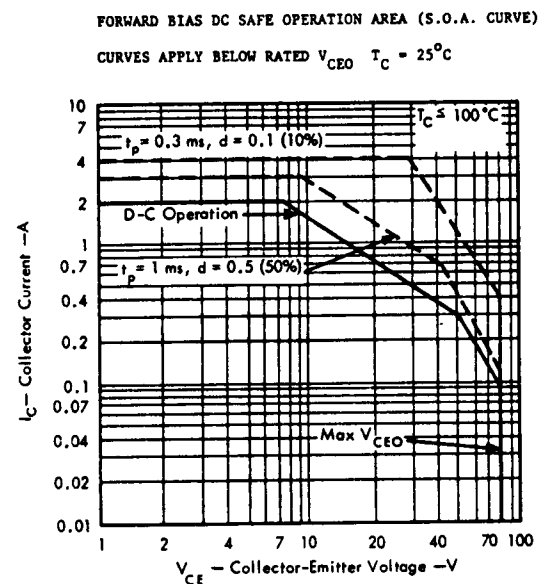
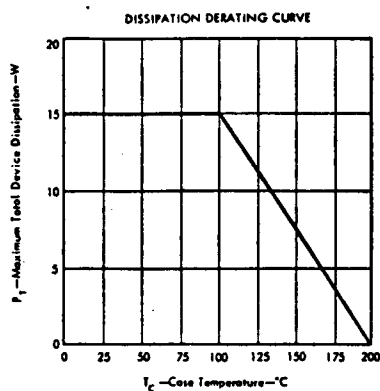
NOTE: All specifications subject to change without notice.

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* ($I_C = 1 \text{ A}$, $V_{CE} = 2 \text{ Vdc}$) ($I_C = 2 \text{ A}$, $V_{CE} = 2 \text{ Vdc}$)	h_{FE}	30 15	120	
Collector - Emitter Saturation Voltage* ($I_C = 1 \text{ A}$, $I_B = 100 \text{ mA}$) ($I_C = 2 \text{ A}$, $I_B = 200 \text{ mA}$)	$V_{CE(SAT)}$		0.3 0.5	Vdc
Base - Emitter Voltage* ($I_C = 2 \text{ A}$, $V_{CE} = 2 \text{ Vdc}$)	$V_{BE(ON)}$		1.2	Vdc
Current - Gain - Bandwidth Product ($I_C = 1 \text{ A}$, $V_{CE} = 10 \text{ Vdc}$, $f = 15 \text{ MHz}$)	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 ($V_{CC} = 20 \text{ Vdc}$, $I_C = 1 \text{ A}$)	t_d			
Rise Time	t_r		130	ns
Storage Time ($V_{EB(off)} = 3.7 \text{ Vdc}$, $I_{B1} = I_{B2} = 100 \text{ mA}$, $R_L = 20 \text{ Ohms}$)	t_s			
Fall Time	t_f		1.5	us

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

TYPICAL OPERATING CURVES



SSDI

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