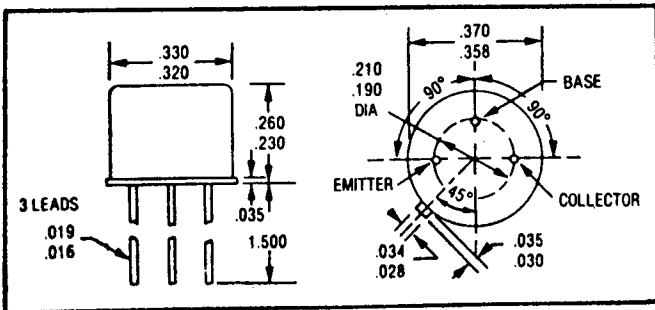


X60253

2N4300**2 AMP****HIGH SPEED NPN TRANSISTOR
100 VOLTS****SSDI**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 @ $T_C = 100^\circ C$	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

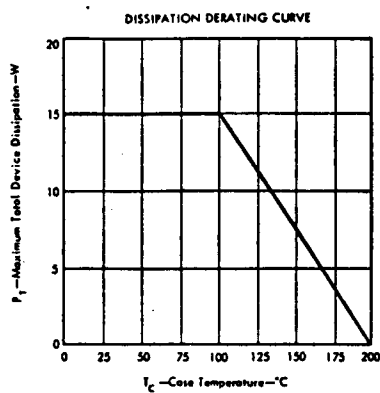
Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* ($I_C = 30$ mA)	BV_{CE0}	80		Vdc
Collector - Base Breakdown Voltage ($I_C = 200$ μ A)	BV_{CB0}	100		Vdc
Emitter - Base Breakdown Voltage ($I_E = 200$ μ A)	BV_{EB0}	8		Vdc

ELECTRICAL CHARACTERISTICS

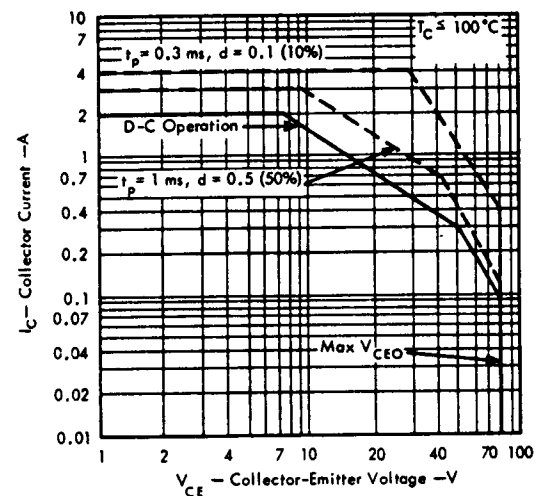
Characteristics	Symbol	Min.	Max.	Unit
Collector Cutoff Current ($V_{CE} = 90$ Vdc) TA = 25°C TC = 150°C	I_{CES}		10 75	μ Adc
Collector Cutoff Current ($V_{CE} = 40$ Vdc)	I_{CEO}		1	μ Adc
Emitter Cutoff Current ($V_{EB} = 5$ Vdc) ($V_{EB} = 8$ Vdc)	I_{EBO}		0.5 10	μ Adc
DC Current Gain* ($I_C = 1$ Adc,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