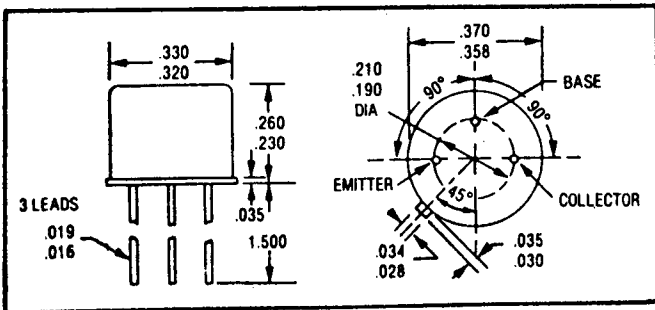


X60253

<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**

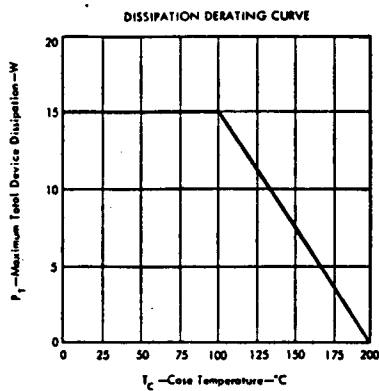
Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* ( $I_C = 30$ mA)	$BV_{CE0}$	80		Vdc
Collector - Base Breakdown Voltage ( $I_C = 200$ $\mu$ A)	$BV_{CB0}$	100		Vdc
Emitter - Base Breakdown Voltage ( $I_E = 200$ $\mu$ A)	$BV_{EB0}$	8		Vdc

# ELECTRICAL CHARACTERISTICS

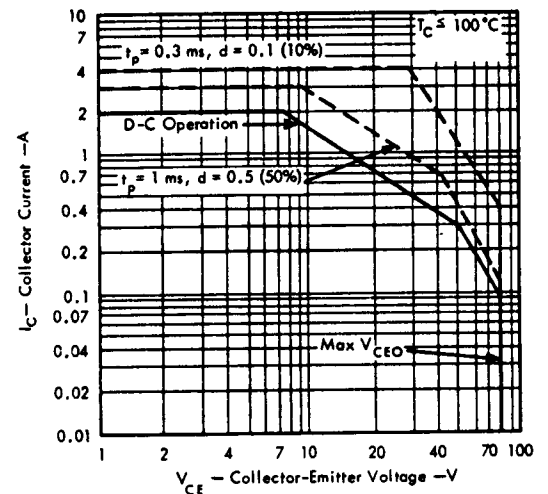
Characteristics	Symbol	Min.	Max.	Unit
Collector Cutoff Current ( $V_{CE} = 90$ Vdc) TA = 25°C TC = 150°C	$I_{CES}$		10 75	$\mu$ Adc
Collector Cutoff Current ( $V_{CE} = 40$ Vdc)	$I_{CEO}$		1	$\mu$ Adc
Emitter Cutoff Current ( $V_{EB} = 5$ Vdc) ( $V_{EB} = 8$ Vdc)	$I_{EBO}$		0.5 10	$\mu$ Adc
DC Current 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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