

# 2N6322 AND 2N6324

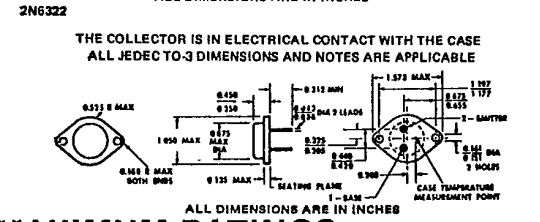
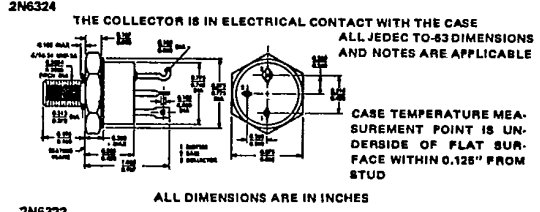
## 30 AMP NPN

### HIGH VOLTAGE/HIGH ENERGY

### 200 VOLTS



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### FEATURES

- MINIMUM BVCEO 200V
- MINIMUM UNCLAMPED ES/B 100mJ
- 200 WATTS AT 100°C CASE TEMPERATURE
- 30 AMP CONTINUOUS COLLECTOR CURRENT
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector - Emitter Voltage	$V_{CE0}$	200	Volts
Collector - Base Voltage	$V_{CB0}$	300	Volts
Emitter - Base Voltage	$V_{EB0}$	5	Volts
Collector Current	$I_C$	30	Amps
Base Current	$I_B$	10	Amps
Total Device Dissipation @ $T_C = 100^\circ C$ Derate above $100^\circ C$	$P_D$	200	Watts 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	$R_{\theta JC}$	0.5	°C/W

### ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* ( $I_C = 30 \text{ mA dc}$ )	$BV_{CE0}$	200		Vdc
Collector - Base Breakdown Voltage ( $I_C = 20 \text{ uA dc}$ )	$BV_{CB0}$	300		Vdc
Emitter - Base Breakdown Voltage ( $I_E = 20 \text{ uA dc}$ )	$BV_{EB0}$	5		Vdc

**ELECTRICAL CHARACTERISTICS**

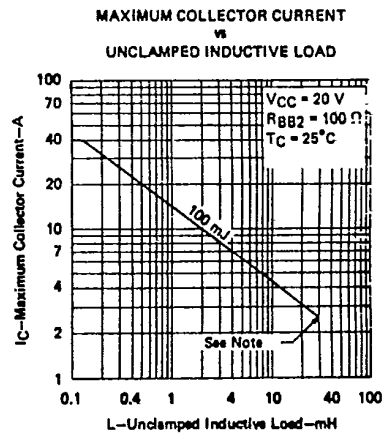
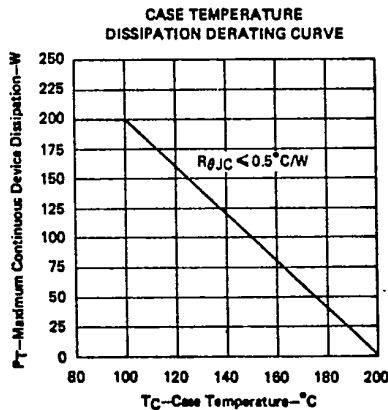
Characteristics	Symbol	Min.	Max.	Unit
Collector Cutoff Current $V_{CE} = 300V$ $V_{BE} = 0V$	$I_{CES}$		2	mAdc
Collector Cutoff Current ( $V_{CE} = 100V$ )	$I_{CBO}$		5	mAdc
Emitter Cutoff Current ( $V_{EB} = 5V$ )	$I_{EBO}$		5	mAdc
DC Current Gain* $(I_C = 5$ Adc. $V_{CE} = 5$ Vdc) $(I_C = 20$ Adc. $V_{CE} = 5$ Vdc) $(I_C = 30$ Adc. $V_{CE} = 5$ Vdc)	$h_{FE}$	40 12 6	150	
Collector - Emitter Saturation Voltage* $(I_C = 20$ Adc. $I_B = 2$ Adc) $(I_C = 30$ Adc. $I_B = 6$ Adc)	$V_{CE(SAT)}$		1.5 3.0	Vdc
Base - Emitter Voltage* $(I_C = 30$ Adc. $V_{CE} = 5$ V)	$V_{BE(ON)}$ *		2.5	Vdc
Current - Gain - Bandwidth Product $(I_C = 1$ Adc. $V_{CE} = 10$ Vdc. $f = 5$ MHz)	$f_T$	10		MHz

**SWITCHING TIMES**

Delay Time	$(V_{CC} = 40$ Vdc. $V_{EB(Off)} = 3$ Vdc. $I_C = 20$ Adc)	$t_d$			
Rise Time		$t_r$ +	800	ns	
Storage Time		$t_s$ +			
Fall Time	$I_{B1} = I_{B2} = 2$ Adc)	$t_f$	3.0	us	

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

**TYPICAL OPERATING CURVES**



NOTE: ABOVE THIS POINT THE SAFE OPERATING AREA HAS NOT BEEN DEFINED.

