

X00152



14830 Valley View Avenue
 La Mirada, California 90638
 (213) 921-9660
 TWX 910-583-4807
 FAX 213-921-2396

SPT5330

30 AMP

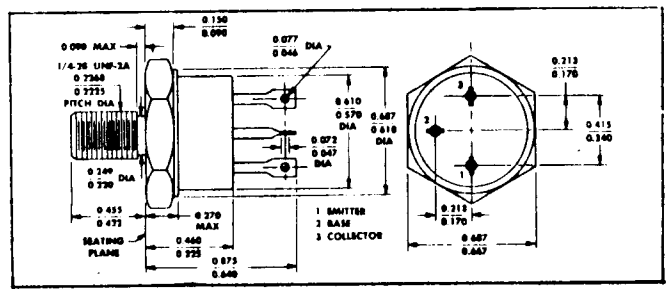
HIGH SPEED PNP TRANSISTOR

150 VOLTS

CASE STYLE T
JEDEC TO-61
ALL TERMINALS ISOLATED FROM CASE

FEATURES

- RADIATION TOLERANT
- FAST SWITCHING, 350 NSEC MAX t_{on}
- HIGH FREQUENCY, TYPICAL f_T 100 MZH
- BVCEO 90 VOLTS MIN, TYPICALLY 150 VOLTS
- HIGH LINEAR GAIN, LOW SATURATION VOLTAGE
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH
- DESIGNED FOR COMPLEMENTARY USE WITH 2N5330



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector - Emitter Voltage	V_{CEO}	90	Volts
Collector - Base Voltage	V_{CBO}	150	Volts
Emitter - Base Voltage	V_{EBO}	8	Volts
Collector Current	I_C	30	Amps
Base Current	I_B	5	Amps
Total Device Dissipation @ $T_C = 100^\circ C$	P_D	80	Watts
Derate above 100 °C		800	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	$R_{\theta JC}$	1.25	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* ($I_C = 100$ mA dc)	BV_{CEO}	90		Vdc
Collector - Base Breakdown Voltage ($I_C = 200$ uA dc)	BV_{CBO}	150		Vdc
Emitter - Base Breakdown Voltage ($I_E = 200$ uA dc)	BV_{EBO}	8		Vdc

NOTE: All specifications subject to change without notice.

ELECTRICAL CHARACTERISTICS

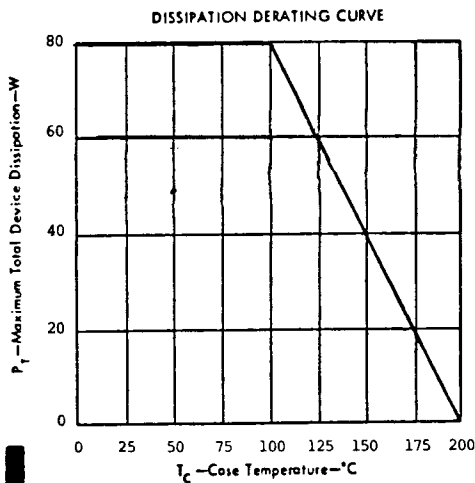
Characteristics	Symbol	Min.	Max.	Unit
Collector Cutoff Current ($V_{CE} = 150 \text{ Vdc}$, $V_{BE} = 500 \text{ mVdc}$)	I_{CEV}		10**	m Adc
Collector Cutoff Current ($V_{CE} = 150 \text{ Vdc}$, $V_{BE} = 500 \text{ mVdc}$, $TC = 150^{\circ}\text{C}$)	I_{CEV}		50***	m Adc
Emitter Cutoff Current ($V_{EB} = 8 \text{ Vdc}$)	I_{EBO}		5	m Adc
DC Current Gain* ($I_C = 10 \text{ Adc}$, $V_{CE} = 2 \text{ mVdc}$) ($I_C = 30 \text{ Adc}$, $V_{CE} = 3 \text{ Vdc}$)	h_{FE}	40 10	120 50	
Collector - Emitter Saturation Voltage* ($I_C = 10 \text{ Adc}$, $I_B = 500 \text{ mAdc}$) ($I_C = 30 \text{ Adc}$, $I_B = 3 \text{ Adc}$)	$V_{CE(SAT)}$		0.6 1.8	Vdc
Base - Emitter Saturation Voltage* ($I_C = 10 \text{ Adc}$, $I_B = 300 \text{ mAdc}$) ($I_C = 30 \text{ Adc}$, $I_B = 3 \text{ Adc}$)	$V_{BE(SAT)}$		1.3 1.8	Vdc
Current - Gain - Bandwidth Product ($I_C = 3 \text{ Adc}$, $V_{CE} = 10 \text{ Vdc}$, $f = 10 \text{ MHz}$)	f_T	80		MHz
Output Capacitance ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 1 \text{ MHz}$)	C_{ob}		500	pf
Input Capacitance ($V_{BE} = 1.0 \text{ Vdc}$, $I_C = 0$, $f = 1 \text{ MHz}$)	C_{ib}		1250	pf
Delay Time ($V_{CC} = 21 \text{ Vdc}$)	t_d t_r t_s t_f		350	n s
Rise Time				
Storage Time				
Fall Time				
	(t_{on})			
	(t_{off})		1.25	u s

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

**Typically 1 uA

***Typically 50 uA

TYPICAL OPERATING CURVES



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

