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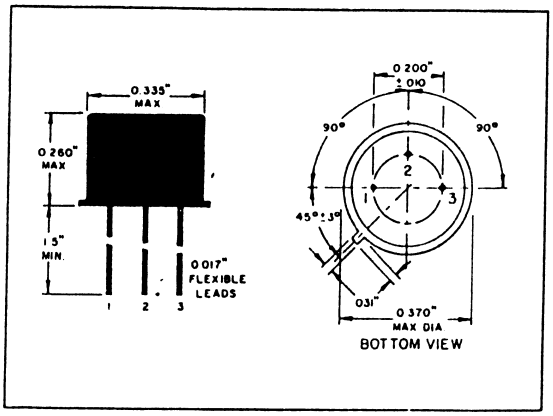
2N2297

NPN SILICON TRANSISTOR



MECHANICAL DATA

CASE: JEDEC TO-5

TERMINAL CONNECTIONS:
Lead 1 Emitter Lead 2 Base
Lead 3 Collector (Electrically connected to case)

ELECTRICAL DATA

ABSOLUTE MAXIMUM RATINGS:

Collector to Base Voltage V_{CBO}	80 volts
Collector to Emitter Voltage V_{CEO}	35 volts
Emitter to Base Voltage V_{EBO}	7.0 volts
Total Device Dissipation	
@ Case Temperature 25° C	5.0 watts
@ Case Temperature 100° C	2.8 watts
@ Free Air Temperature 25° C	0.8 watts
Junction Temperature (Operating)	+200° C
Storage Temperature	−65° C to +300° C

ELECTRICAL CHARACTERISTICS: @25° C (unless otherwise noted)

	SYM.	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Collector to Base Breakdown Voltage	BV_{CBO}	I_C=100 μA	80	....	....	volts
Collector to Emitter Breakdown Voltage	BV_{CEO}	I_C=30 mA ▲	35	....	....	volts
Emitter to Base Breakdown Voltage	BV_{EBO}	I_E=100 μA	7.0	....	....	volts
Collector Cutoff Current	I_{CBO1}	V_{CB}=60 V	....	....	10	nA
	I_{CBO2}	V_{CB}=60 V, TA=+150° C	....	....	10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5.0 V	....	....	10	nA
DC Current Gain	h_{FE1}	V_{CE}=10 V, I_C=150 mA ▲	40	....	120	....
	h_{FE2}	V_{CE}=10 V, I_C=1.0 mA	15	....	....	....
	h_{FE3}	V_{CE}=10 V, I_C=1.0 A ▲	30	....	....	....
Collector to Emitter Saturation Voltage	$V_{CE}(sat)1$	I_C=150 mA, I_B=15 mA	....	....	0.2	volts
	$V_{CE}(sat)2$	I_C=1.0 A, I_B=100 mA ▲	....	....	1.0	volts
Base to Emitter Saturation Voltage	$V_{BE}(sat)$	I_C=1.0 A, I_B=100 mA ▲	....	....	1.6	volts
High Frequency Small Signal Current Gain	h_{fe}	V_{CE}=10 V, I_C=50 mA, f=20 mc	3.0	....	....	....
Collector Capacitance	Cob	V_{CB}=10 V, I_E=0 mA, f=3.0 mc	....	....	12	pf
Input Capacitance	C_{ib}	V_{EB}=0.5 V, I_C=0 mA	....	....	80	pf
Collector-Base Time Constant	$r_b'c_c$	V_{CB}=10 V, I_C=10 mA, f=4.0 mc	....	....	800	psec

▲ Measured with 300 μSec, 2% duty cycle pulse