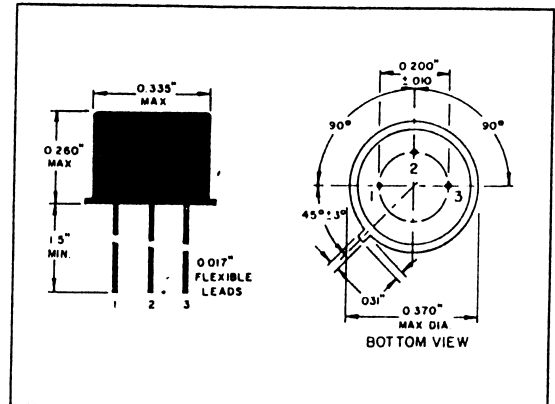


2N2297

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_{EB0}	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}	$I_C=100 \mu A$	80	....	....	volts
Collector to Emitter Breakdown Voltage	BV_{CEO}	$I_C=30 \text{ mA} \blacktriangle$	35	....	....	volts
Emitter to Base Breakdown Voltage	BV_{EBO}	$I_E=100 \mu A$	7.0	....	....	volts
Collector Cutoff Current	I_{CBO1}	$V_{CB}=60 \text{ V}$	....	....	10	nA
	I_{CBO2}	$V_{CB}=60 \text{ V}, T_A=+150^\circ \text{ C}$	....	....	10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5.0 \text{ V}$	....	....	10	nA
DC Current Gain	h_{FE1}	$V_{CE}=10 \text{ V}, I_C=150 \text{ mA} \blacktriangle$	40	....	120	....
	h_{FE2}	$V_{CE}=10 \text{ V}, I_C=1.0 \text{ mA}$	15	....	....	....
	h_{FE3}	$V_{CE}=10 \text{ V}, I_C=1.0 \text{ A} \blacktriangle$	30	....	....	....
Collector to Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=150 \text{ mA}, I_B=15 \text{ mA}$	....	....	0.2	volts
	$V_{CE(sat)2}$	$I_C=1.0 \text{ A}, I_B=100 \text{ mA} \blacktriangle$	....	....	1.0	volts
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.0 \text{ A}, I_B=100 \text{ mA} \blacktriangle$	....	....	1.6	volts
High Frequency Small Signal Current Gain	h_{fe}	$V_{CE}=10 \text{ V}, I_C=50 \text{ mA}, f=20 \text{ mc}$	3.0	....	....	....
Collector Capacitance	C_{ob}	$V_{CB}=10 \text{ V}, I_E=0 \text{ mA}, f=3.0 \text{ mc}$	....	....	12	pf
Input Capacitance	C_{ib}	$V_{EB}=0.5 \text{ V}, I_C=0 \text{ mA}$	....	....	80	pf
Collector-Base Time Constant	$r_b'c_c$	$V_{CB}=10 \text{ V}, I_C=10 \text{ mA}, f=4.0 \text{ mc}$	....	....	800	psec

$\blacktriangle$ Measured with 300 μSec , 2% duty cycle pulse

