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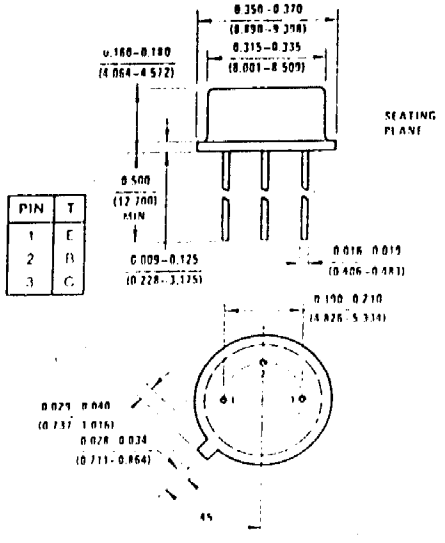
2N3244 (SILICON)

PNP silicon transistors for medium-current, high-speed switching and driver applications.

MAXIMUM RATINGS

Rating	Symbol	2N 3244	Unit
Collector-Base Voltage	V_{CB}	40	Vdc
Collector-Emitter Voltage	V_{CEO}	40	Vdc
Emitter-Base Voltage	V_{EB}	5.0	Vdc
Collector Current	I_C	1.0	Adc
Total Device Dissipation @ 25° C Ambient Temperature Derating Factor Above 25°C	P_D	1.0 5.71	Watt mW/°C
Total Device Dissipation @ 25° C Case Temperature Derating Factor Above 25°C	P_D	5.0 28.6	Watts mW/°C
Junction Temperature, Operating	T_J	+200	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C
Thermal Resistance, Junction to Ambient Thermal Resistance, Junction to Case	θ_{JA} θ_{JC}	0.175 35	°C/mW °C/W

TO-39 LO-PROFILE



PHYSICAL DIMENSIONS

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic		Fig. No.	Symbol	Min	Max	Unit
Collector Cutoff Current (V_{CB} = 30 Vdc, I_E = 0) (V_{CB} = 30 Vdc, I_E = 0, T_A = 100°C)			I_{CBO}	— —	.050 10	μAdc
Collector Cutoff Current (V_{CE} = 30 Vdc, $V_{BE(off)}$ = 3 Vdc)			I_{CEX}	—	50	nAdc
Emitter-Base Leakage Current (V_{EB} = 3 Vdc, I_C = 0)			I_{EBO}	—	30	nAdc
Base Cutoff Current (V_{CE} = 30 Vdc, $V_{BE(off)}$ = 3 Vdc)			I_{BL}	—	80	nAdc
Collector-Base Breakdown Voltage (I_C = 10 μAdc, I_E = 0)			BV_{CBO}	40	—	Vdc
Collector-Emitter Breakdown Voltage (1) (I_C = 10 mAdc, I_B = 0)			BV_{CEO}	40	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)			BV_{EBO}	5.0	—	Vdc
Collector Saturation Voltage (1) (I_C = 150 mAdc, I_B = 15 mAdc) (I_C = 500 mAdc, I_B = 50 mAdc) (I_C = 1 Adc, I_B = 100 mAdc)		2,3	$V_{CE(sat)}$	— — —	0.3 0.5 1.0	Vdc
Base-Emitter Saturation Voltage (1) (I_C = 150 mAdc, I_B = 15 mAdc) (I_C = 500 mAdc, I_B = 50 mAdc) (I_C = 1 Adc, I_B = 100 mAdc)		3	$V_{BE(sat)}$	— 0.75 —	1.1 1.5 2.0	Vdc
DC Forward Current Transfer Ratio (1) (I_C = 150 mAdc, V_{CE} = 1.0 Vdc) (I_C = 500 mAdc, V_{CE} = 1.0 Vdc) (I_C = 1 Adc, V_{CE} = 5 Vdc)		1	h_{FE}	60 50 25	— 150 —	—
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 100 kHz)		5	C_{ob}	—	25	pF
Input Capacitance (V_{OB} = 0.5 Vdc, I_C = 0, f = 100 kHz)		5	C_{ib}	—	100	pF
Current-Gain - Bandwidth Product (I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 100 MHz)			f_T	175	—	MHz
Delay Time	(I_C = 500 mA, I_{B1} = 50 mA V_{OB} = 2 V, V_{CC} = 30 V)	6,8	t_d	—	15	ns
Rise Time			t_r	—	35	ns
Storage Time	(I_C = 500 mA, V_{CC} = 30 V I_{B1} = I_{B2} = 50 mA)	6,9	t_s		140	ns
Fall Time			t_f	—	45	ns
Total Control Charge (I_C = 500 mA, I_B = 50 mA, V_{CC} = 30 V)		7,10	Q_T	—	14	nC

(1) Pulse Test: PW ≤ 300 μs, Duty Cycle ≤ 2%