

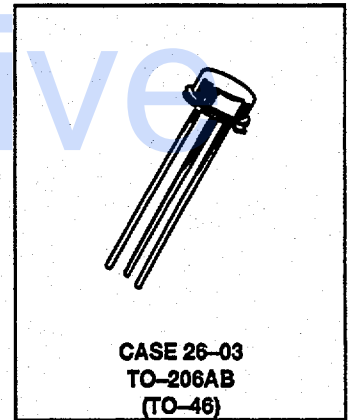
2N3764JTX, JTXV, JANS
Processed per MIL-S-19500/396
PNP Silicon
Small-Signal Transistor

...designed for general-purpose switching applications.



Not Recommended for New Design

MAXIMUM RATINGS			
Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	40	Vdc
Collector-Base Voltage	V_{CBO}	40	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Collector Current — Continuous	I_C	1.5	Adc
Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 5.71	Watts mW/°C
Operating Junction and Storage Temperature Range	T_J, T_{stg}	- 55 to 200	°C



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)				
Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage ⁽¹⁾ ($I_C = 10 \text{ mAdc}, I_B = 0$)	$V_{(BR)CEO}$	40	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 10 \text{ } \mu\text{Adc}, I_E = 0$)	$V_{(BR)CBO}$	40	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \text{ } \mu\text{Adc}, I_C = 0$)	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 20 \text{ Vdc}, V_{EB} = 2.0 \text{ Vdc}$) ($V_{CB} = 20 \text{ Vdc}, V_{EB} = 2.0 \text{ Vdc}, T_A = 150^\circ\text{C}$)	I_{CEX}	—	0.1 150	μAdc
Collector Cutoff Current ($V_{CB} = 20 \text{ Vdc}$)	I_{CBO}	—	0.1	μAdc
Emitter Cutoff Current ($V_{EB} = 2.0 \text{ Vdc}, I_C = 0$)	I_{EBO}	—	0.2	μAdc

REV 0
9/93

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2N3764 SERIES

ON CHARACTERISTICS				
DC Current Gain ($I_C = 10 \text{ mAdc}$, $V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 150 \text{ mAdc}$, $V_{CE} = 1.0 \text{ Vdc}$) ⁽¹⁾ ($I_C = 500 \text{ mAdc}$, $V_{CE} = 1.0 \text{ Vdc}$) ⁽¹⁾ ($I_C = 1.0 \text{ Adc}$, $V_{CE} = 1.5 \text{ Vdc}$) ⁽¹⁾ ($I_C = 1.5 \text{ Adc}$, $V_{CE} = 5.0 \text{ Vdc}$) ⁽¹⁾ ($I_C = 500 \text{ mAdc}$, $V_{CE} = 1.0 \text{ Vdc}$, $T_A = -55^\circ\text{C}$) ⁽¹⁾	h_{FE}	35 40 40 30 30 20	— — 140 120 — —	—
Collector-Emitter Saturation Voltage ⁽¹⁾ ($I_C = 10 \text{ mAdc}$, $I_B = 1.0 \text{ mAdc}$) ($I_C = 150 \text{ mAdc}$, $I_B = 15 \text{ mAdc}$) ($I_C = 500 \text{ mAdc}$, $I_B = 50 \text{ mAdc}$) ($I_C = 1.0 \text{ Adc}$, $I_B = 100 \text{ mAdc}$)	$V_{CE(sat)}$	— — — —	0.1 0.22 0.5 0.9	Vdc
Base-Emitter Saturation Voltage ⁽¹⁾ ($I_C = 10 \text{ mAdc}$, $I_B = 1.0 \text{ mAdc}$) ($I_C = 150 \text{ mAdc}$, $I_B = 15 \text{ mAdc}$) ($I_C = 500 \text{ mAdc}$, $I_B = 50 \text{ mAdc}$) ($I_C = 1.0 \text{ Adc}$, $I_B = 100 \text{ mAdc}$)	$V_{BE(sat)}$	— — — 0.9	0.8 1.0 1.2 1.4	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Output Capacitance ($V_{CB} = 10 \text{ Vdc}$, $f = 0.1$ to 1.0 MHz)	C_{obo}	—	15	pF
Input Capacitance ($V_{EB} = 0.5 \text{ Vdc}$, $f = 0.1$ to 1.0 MHz)	C_{ibo}	—	80	pF
Small-Signal Current Transfer Ratio, Magnitude ($I_C = 50 \text{ mAdc}$, $V_{CE} = 10 \text{ Vdc}$, $f = 100 \text{ MHz}$)	$ h_{fe} $	1.8	6.0	—
SWITCHING CHARACTERISTICS (See Section 4, Figure 15) ($V_{CC} = 30 \text{ Vdc}$, $I_C = 1.0 \text{ mAdc}$, $I_B = 100 \text{ mAdc}$)				
Delay Time	t_d	—	8.0	ns
Rise Time	t_r	—	35	ns
Storage Time	t_s	—	80	ns
Fall Time	t_f	—	35	ns

ASSURANCE TESTING (Pre/Post Burn-In) Burn-In Conditions: $T_A = 30 \pm 5^\circ\text{C}$, $V_{CB} = 30 \text{ Vdc}$ (10 Vdc JANS), $P_D = 0.5 \text{ W}$				
Characteristics Tested	Symbol	Initial and End Point Limits		Unit
		Min	Max	
Collector Cutoff Current ($V_{CB} = 20 \text{ Vdc}$)	I_{CBO}	—	100	nAdc
DC Current Gain ⁽¹⁾ ($I_C = 500 \text{ mAdc}$, $V_{CE} = 1.0 \text{ Vdc}$)	h_{FE}	40	140	—

Delta from Pre-Burn-In Measured Values		Min	Max	
Delta Collector Cutoff Current	ΔI_{CBO}	—	± 100 or ± 10 whichever is greater	% of Initial Value nAdc
Delta DC Current Gain ⁽¹⁾	Δh_{FE}	—	± 15	% of Initial Value

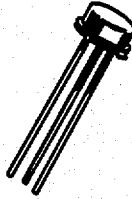
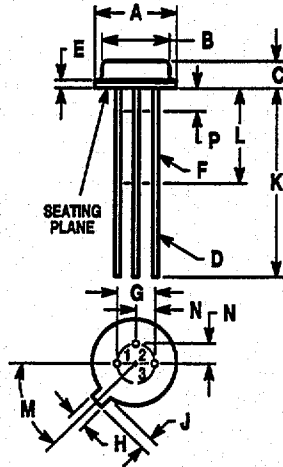
(1) Pulsed. Pulse Width 250 to 350 μs , Duty Cycle 1.0 to 2.0%.

ARCHIVE DOCUMENT - NOT FOR NEW DESIGN

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2N3764 SERIES

PACKAGE DIMENSIONS




STYLE 1:
 PIN 1. EMITTER
 2. BASE
 3. COLLECTOR

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	5.31	5.84	0.209	0.230
B	4.52	4.95	0.178	0.195
C	1.65	2.16	0.065	0.085
D	0.406	0.533	0.016	0.021
E	-	1.02	-	0.040
F	0.305	0.483	0.012	0.019
G	2.54 BSC		0.100 BSC	
H	0.914	1.17	0.036	0.046
J	0.711	1.22	0.028	0.048
K	12.70	-	0.500	-
L	6.35	-	0.250	-
M	45° BSC		45° BSC	
N	1.27 BSC		0.050 BSC	
P	-	1.27	-	0.050

All JEDEC dimensions and notes apply.

CASE 26-03
 TO-206AB
 (TO-48)

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