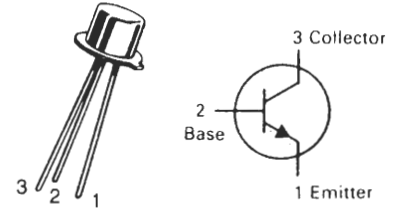


# 2N914

JAN, JTX AVAILABLE  
CASE 22-03, STYLE 1  
TO-18 (TO-206AA)



**SWITCHING TRANSISTOR**

**NPN SILICON**

Refer to 2N2368 for graphs.

## MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	15	Vdc
Collector-Emitter Voltage ( $R_{BE} \leq 10$ ohms)	$V_{CER}$	20	Vdc
Collector-Base Voltage	$V_{CBO}$	40	Vdc
Emitter-Base Voltage	$V_{EBO}$	5.0	Vdc
Collector Current — Continuous(1)	$I_C$	150	mAdc
Total Device Dissipation ( $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$ )	$P_D$	360 2.06	mW mW/ $^\circ\text{C}$
Total Device Dissipation ( $T_C = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$ )	$P_D$	1.2 6.8	Watts mW/ $^\circ\text{C}$
Total Device Dissipation ( $T_C = 100^\circ\text{C}$ Derate above $100^\circ\text{C}$ )	$P_D$	0.68	Watt
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +200	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
----------------	--------	-----	-----	------

### OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage(2) ( $I_C = 30$ mAdc, $R_{BE} \leq 10$ ohms)	$V_{CER(sus)}$	20	—	Vdc
Collector-Emitter Sustaining Voltage(2) ( $I_C = 30$ mAdc, $I_B = 0$ )	$V_{CEO(sus)}$	15	—	Vdc
Collector-Base Breakdown Voltage ( $I_C = 1.0$ $\mu$ Adc, $I_E = 0$ )	$V_{(BR)CBO}$	40	—	Vdc
Emitter-Base Breakdown Voltage ( $I_E = 10$ $\mu$ Adc, $I_C = 0$ )	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current ( $V_{CE} = 20$ Vdc, $V_{BE} = 0.25$ Vdc, $T_A = 125^\circ\text{C}$ )	$I_{CEX}$	—	10	$\mu$ Adc
Collector Cutoff Current ( $V_{CB} = 20$ Vdc, $I_E = 0$ ) ( $V_{CB} = 20$ Vdc, $I_E = 0$ , $T_A = 150^\circ\text{C}$ )	$I_{CBO}$	—	0.025 15	$\mu$ Adc
Emitter Cutoff Current ( $V_{BE} = 4.0$ Vdc, $I_C = 0$ )	$I_{EBO}$	—	0.1	$\mu$ Adc

### ON CHARACTERISTICS

DC Current Gain(2) ( $I_C = 10$ mAdc, $V_{CE} = 1.0$ Vdc) ( $I_C = 10$ mAdc, $V_{CE} = 1.0$ Vdc, $T_A = -55^\circ\text{C}$ ) ( $I_C = 500$ mAdc, $V_{CE} = 5.0$ Vdc)	$h_{FE}$	30 12 10	120 — —	—
Collector-Emitter Saturation Voltage(2) ( $I_C = 200$ mAdc, $I_B = 20$ mAdc) ( $I_C = 10$ mAdc, $I_B = 1.0$ thru $20$ mAdc, $T_A = -55$ to $+125^\circ\text{C}$ )	$V_{CE(sat)}$	— —	0.70 0.25	Vdc
Base-Emitter Saturation Voltage ( $I_C = 10$ mAdc, $I_B = 1.0$ mAdc)	$V_{BE(sat)}$	0.70	0.80	Vdc

### SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product ( $I_C = 20$ mAdc, $V_{CE} = 10$ Vdc, $f = 100$ MHz)	$f_T$	300	—	MHz
Output Capacitance ( $V_{CB} = 10$ Vdc, $I_E = 0$ , $f = 1.0$ MHz)	$C_{obo}$	—	6.0	pF
Input Capacitance ( $V_{BE} = 0.5$ Vdc, $I_C = 0$ , $f = 1.0$ MHz)	$C_{ibo}$	—	9.0	pF

### SWITCHING CHARACTERISTICS

Storage Time(3) ( $I_C = I_{B1} = I_{B2} = 20$ mAdc)	$t_s$	—	20	ns
Turn-On Time(3) ( $I_C = 200$ mAdc, $I_{B1} = 40$ mAdc, $I_{B2} = 20$ mAdc)	$t_{on}$	—	40	ns
Turn-Off Time(3) ( $I_C = 200$ mAdc, $I_{B1} = 40$ mAdc, $I_{B2} = 20$ mAdc)	$t_{off}$	—	40	ns

(1) Limited by Power Dissipation.

(2) Pulse Test: Pulse Width =  $300$   $\mu$ s, Duty Cycle  $\leq 1.0\%$ .

(3) Measured on Sampling Scope: Pulse Width  $\geq 200$  ns.