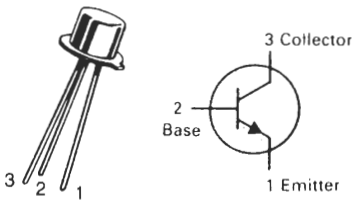
2N914

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°C Derate above 25°C	P_D	360 2.06	mW mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	1.2 6.8	Watts mW/°C
Total Device Dissipation @ T_C = 100°C Derate above 100°C	P_D	0.68	Watt
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +200	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°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 μAdc, I_E = 0)	$V_{(BR)CBO}$	40	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current (V_{CE} = 20 Vdc, V_{BE} = 0.25 Vdc, T_A = 125°C)	I_{CEX}	—	10	μAdc
Collector Cutoff Current (V_{CB} = 20 Vdc, I_E = 0) (V_{CB} = 20 Vdc, I_E = 0, T_A = 150°C)	I_{CBO}	— —	0.025 15	μAdc
Emitter Cutoff Current (V_{BE} = 4.0 Vdc, I_C = 0)	I_{EBO}	—	0.1	μAdc
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°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°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 μs, Duty Cycle ≤ 1.0%.
(3) Measured on Sampling Scope: Pulse Width ≥ 200 ns.