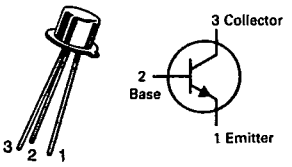
T-27-09

2N915

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



GENERAL PURPOSE TRANSISTOR
NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	50	Vdc
Collector-Base Voltage	V_{CBO}	70	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	0.36 2.05	Watts mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	1.2 6.81	Watts mW/°C
Total Power Dissipation @ + 100°C Case	P_D	0.68	W
Operating and Storage Temperature Temperature Range	T_J, T_{stg}	−65 to +200	°C

Refer to 2N3946 for graphs.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage(1) (I_C = 10 mA I_B = 0)	$V_{CEO(sus)}$	50	—	Vdc
Collector-Base Breakdown Voltage (I_C = 100 μA I_E = 0)	$V_{(BR)CBO}$	70	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 10 μA, I_C = 0)	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current (V_{CB} = 60 V, I_E = 0)	I_{CBO}	—	0.010	μA
Collector Cutoff Current (V_{CB} = 60 V, I_E = 0) (V_{CB} = 60 V, I_E = 0, T_A = +150°C)	I_{CBO}	— —	0.010 30	μA
ON CHARACTERISTICS				
DC Current Gain (I_C = 10 mA V_{CE} = 5.0 V)	h_{FE}	50	200	—
Collector-Emitter Saturation Voltage (I_C = 10 mA I_B = 1.0 mA	$V_{CE(sat)}$	—	1.0	Vdc
Base-Emitter Saturation Voltage (I_C = 10 mA I_B = 1.0 mA)	$V_{BE(sat)}$	—	0.9	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Output Capacitance (I_E = 0 V_{CB} = 10 V, f = 100 kHz)	C_{obo}	—	3.5	pF
Emitter Transition Capacitance (I_C = 0 V_{EB} = 0.5 V, f = 100 kHz)	C_{TE}	—	10	pF
Input Impedance (I_C = 1.0 mA V_{CE} = 5.0 V) (I_C = 5.0 mA V_{CE} = 5.0 V)	h_{ie}	— —	6000 2000	ohms
High Frequency Current Gain f = 100 MHz (I_C = 10 mA V_{CE} = 15 V)	h_{fe}	2.5	—	—
Small-Signal Current Gain f = 1 kHz (I_C = 1.0 mA V_{CE} = 5.0 V) (I_C = 5.0 mA V_{CE} = 5.0 V)	h_{fe}	40 50	200 250	—
Output Admittance (I_C = 1.0 mA V_{CE} = 5.0 V) (I_C = 5.0 mA V_{CE} = 5.0 V)	h_{oe}	— —	75 125	μmhos μmho
Collector Base Time Constant (I_C = 10 mA, V_{CB} = 10 V, f = 40 mHz)	$rb'C_c$		300	ps

(1) Pulse Test: PW ≦ 300 μs, Duty Cycle ≦ 1.0%.