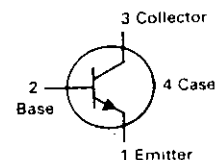


2N918

JAN, JTX, JTXV AVAILABLE

CASE 20-03, STYLE 10

TO-72 (TO-206AF)

**AMPLIFIER TRANSISTOR**

NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CE0}	15	Vdc
Collector-Base Voltage	V_{CBO}	30	Vdc
Emitter-Base Voltage	V_{EBO}	3.0	Vdc
Collector Current — Continuous	I_C	50	mA dc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	200 1.14	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	300 1.71	mW mW/ $^\circ\text{C}$
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 Sustaining Voltage ($I_C = 3.0 \text{ mA dc}, I_B = 0$)	$V_{CE0(sus)}$	15	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 1.0 \text{ mA dc}, I_E = 0$)	$V_{(BR)CBO}$	30	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \text{ mA dc}, I_C = 0$)	$V_{(BR)EBO}$	3.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 15 \text{ Vdc}, I_E = 0$) ($V_{CB} = 15 \text{ Vdc}, I_E = 0, T_A = 150^\circ\text{C}$)	I_{CBO}	— —	.010 1.0	$\mu\text{A dc}$ $\mu\text{A dc}$
ON CHARACTERISTICS				
DC Current Gain ($I_C = 3.0 \text{ mA dc}, V_{CE} = 1.0 \text{ Vdc}$)	h_{FE}	20	—	—
Collector-Emitter Saturation Voltage ($I_C = 10 \text{ mA dc}, I_B = 1.0 \text{ mA dc}$)	$V_{CE(sat)}$	—	0.4	Vdc
Base-Emitter Saturation Voltage ($I_C = 10 \text{ mA dc}, I_B = 1.0 \text{ mA dc}$)	$V_{BE(sat)}$	—	1.0	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product(1) ($I_C = 4.0 \text{ mA dc}, V_{CE} = 10 \text{ Vdc}, f = 100 \text{ MHz}$)	f_T	600	—	MHz
Output Capacitance ($V_{CB} = 10 \text{ Vdc}, I_E = 0, f = 140 \text{ kHz}$) ($V_{CB} = 0, I_E = 0, f = 140 \text{ kHz}$)	C_{obo}	— —	1.7 3.0	pF
Input Capacitance ($V_{EB} = 0.5 \text{ Vdc}, I_C = 0, f = 140 \text{ kHz}$)	C_{ibo}	—	2.0	pF
Noise Figure ($I_C = 1.0 \text{ mA dc}, V_{CE} = 6.0 \text{ Vdc}, R_G = 400 \text{ Ohms}, f = 60 \text{ MHz}$)	NF	—	6.0	dB
FUNCTIONAL TEST				
Amplifier Power Gain ($V_{CB} = 12 \text{ Vdc}, I_C = 6.0 \text{ mA dc}, f = 200 \text{ MHz}$)	G_{pe}	15	—	dB
Power Output ($V_{CB} = 15 \text{ Vdc}, I_C = 8.0 \text{ mA dc}, f = 500 \text{ MHz}$)	P_o	30	—	mW
Collector Efficiency ($V_{CB} = 15 \text{ Vdc}, I_C = 8.0 \text{ mA dc}, f = 500 \text{ MHz}$)	η	25	—	%

(1) f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.