

P2N2907A

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector – Emitter Breakdown Voltage (Note 1) (I _C = -10 mAdc, I _B = 0)	V _{(BR)CEO}	-60	–	Vdc
Collector – Base Breakdown Voltage (I _C = -10 μAdc, I _E = 0)	V _{(BR)CBO}	-60	–	Vdc
Emitter – Base Breakdown Voltage (I _E = -10 μAdc, I _C = 0)	V _{(BR)EBO}	-5.0	–	Vdc
Collector Cutoff Current (V _{CE} = -30 Vdc, V _{EB(off)} = -0.5 Vdc)	I _{CEX}	–	-50	nAdc
Collector Cutoff Current (V _{CB} = -50 Vdc, I _E = 0) (V _{CB} = -50 Vdc, I _E = 0, T _A = 150°C)	I _{CBO}	– –	-0.01 -10	μAdc
Emitter Cutoff Current (V _{EB} = -3.0 Vdc)	I _{EBO}	–	-10	nAdc
Collector Cutoff Current (V _{CE} = -10 V)	I _{CEO}	–	-10	nAdc
Base Cutoff Current (V _{CE} = -30 Vdc, V _{EB(off)} = -0.5 Vdc)	I _{BEX}	–	-50	nAdc

ON CHARACTERISTICS

DC Current Gain (I _C = -0.1 mAdc, V _{CE} = -10 Vdc) (I _C = -1.0 mAdc, V _{CE} = -10 Vdc) (I _C = -10 mAdc, V _{CE} = -10 Vdc) (I _C = -150 mAdc, V _{CE} = -10 Vdc) (Note 1) (I _C = -500 mAdc, V _{CE} = -10 Vdc) (Note 1)	h _{FE}	75 100 100 100 50	– – – 300 –	–
Collector – Emitter Saturation Voltage (Note 1) (I _C = -150 mAdc, I _B = -15 mAdc) (I _C = -500 mAdc, I _B = -50 mAdc)	V _{CE(sat)}	– –	-0.4 -1.6	Vdc
Base – Emitter Saturation Voltage (Note 1) (I _C = -150 mAdc, I _B = -15 mAdc) (I _C = -500 mAdc, I _B = -50 mAdc)	V _{BE(sat)}	– –	-1.3 -2.6	Vdc

SMALL-SIGNAL CHARACTERISTICS

Current – Gain – Bandwidth Product (Notes 1 and 2) (I _C = -50 mAdc, V _{CE} = -20 Vdc, f = 100 MHz)	f _T	200	–	MHz
Output Capacitance (V _{CB} = -10 Vdc, I _E = 0, f = 1.0 MHz)	C _{obo}	–	8.0	pF
Input Capacitance (V _{EB} = -2.0 Vdc, I _C = 0, f = 1.0 MHz)	C _{ibo}	–	30	pF

SWITCHING CHARACTERISTICS

Turn-On Time	(V _{CC} = -30 Vdc, I _C = -150 mAdc, I _{B1} = -15 mAdc) (Figures 1 and 5)	t _{on}	–	50	ns
Delay Time		t _d	–	10	ns
Rise Time		t _r	–	40	ns
Turn-Off Time	(V _{CC} = -6.0 Vdc, I _C = -150 mAdc, I _{B1} = I _{B2} = -15 mAdc) (Figure 2)	t _{off}	–	110	ns
Storage Time		t _s	–	80	ns
Fall Time		t _f	–	30	ns

1. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.
2. f_T is defined as the frequency at which |h_{fe}| extrapolates to unity.