

2N2605

JAN, JTX AVAILABLE
CASE 26-03, STYLE 1
TO-46 (TO-206AB)

AMPLIFIER TRANSISTOR

PNP SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	45	V
Collector-Base Voltage	V_{CBO}	60	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current — Continuous	I_C	30	mA
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	400 2.28	mW mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	°C

Refer to 2N3962 for graphs.

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

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

OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage(1) $I_C = 10\text{ mA}$ (Pulse)	$V_{(BR)CEO}$	45	—	V
Collector-Base Breakdown Voltage ($I_C = 10\text{ }\mu\text{A}$)	$V_{(BR)CBO}$	60	—	V
Emitter-Base Breakdown Voltage ($I_E = 10\text{ }\mu\text{A}$)	$V_{(BR)EBO}$	6	—	V
Collector Cutoff Current ($V_{CB} = 45\text{ V}$)	I_{CBO}	—	10	nA
Base-Emitter Short Circuit Current ($V_{CE} = 45\text{ V}$) ($V_{CE} = 45\text{ V}, T_A = 170^\circ\text{C}$)	I_{CES}	—	10	nA μA
Emitter Cutoff Current ($V_{BE} = 5.0\text{ V}$)	I_{EBO}	—	2	nA

ON CHARACTERISTICS

DC Current Gain(1) ($V_{CE} = 5.0\text{ V}, I_C = 10\text{ }\mu\text{A}$) ($V_{CE} = 5.0\text{ V}, I_C = 500\text{ }\mu\text{A}$) ($V_{CE} = 5.0\text{ V}, I_C = 10\text{ mA}$) ($V_{CE} = 5.0\text{ V}, I_C = 10\text{ }\mu\text{A}, T_A = -55^\circ\text{C}$)	h_{FE}	100 150 — 20	300 — 600 —	— — — —
Collector-Emitter Saturation Voltage ($I_C = 10\text{ mA}, I_B = 500\text{ }\mu\text{A}$)	$V_{CE(sat)}$	—	0.5	V
Base-Emitter Saturation Voltage ($I_C = 10\text{ mA}, I_B = 500\text{ }\mu\text{A}$)	$V_{BE(sat)}$	0.7	0.9	V

SMALL-SIGNAL CHARACTERISTICS

Output Capacitance ($V_{CB} = 5.0\text{ V}, I_E = 0, f = 1.0\text{ MHz}$)	C_{obo}	—	6	pF
Input Impedance ($V_{CE} = 5.0\text{ V}, I_C = 1.0\text{ mA}, f = 100\text{ MHz}$)	h_{ie}	—	200	Ω
Input Impedance ($V_{CB} = 5.0\text{ V}, I_E = 1.0\text{ mA}, f = 1.0\text{ kHz}$)	h_{ib}	25	35	Ω
Voltage Feedback Ratio ($V_{CB} = 5.0\text{ V}, I_E = 1.0\text{ mA}, f = 1.0\text{ kHz}$)	h_{rb}	—	10	10^{-4}
Small-Signal Current Gain ($V_{CB} = 5.0\text{ V}, I_E = 1.0\text{ mA}, f = 1.0\text{ kHz}$) ($V_{CB} = 5.0\text{ V}, I_C = 500\text{ }\mu\text{A}, f = 30\text{ MHz}$)	h_{fe}	150 1.0	600 —	— —
Output Admittance ($V_{CB} = 5.0\text{ V}, I_E = 1.0\text{ mA}, f = 1.0\text{ kHz}$)	h_{ob}	—	1	μmho
Noise Figure(2) ($V_{CB} = 5.0\text{ V}, I_C = 10\text{ }\mu\text{A}, R_g = 10\text{ k}\Omega, BW = 15.7\text{ kHz}$)	NF	—	3	dB

(1) Pulse Width < 300 μsec , Duty Cycle $\leq 2.0\%$.

(2) Measured in amplifier with response down 3 db at 10 Hz.