ELECTRONICS, INC.
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NTE2645
Silicon PNP Transistor
General Purpose Amp

Absolute Maximum Ratings:

Collector–Base Voltage, V_{CBO} 175V
Collector–Emitter Voltage, V_{CEO} 175V
Emitter–Base Voltage, V_{EBO} 5V
Collector Current, I_C 1A
Total Power Dissipation, P_T
T_A = +25°C 1.0W
Derate linearly . . . . . 5.71mW/°C
T_C = +25°C 5.0W
Derate linearly . . . . . 28.6mW/°C
Operating Junction Temperature Range, T_J . . . . . –65° to +200°C
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
OFF Characteristics							
Collector–Emitter Breakdown Current	$V_{(BR)CEO}$	I_C = 10mA		175	–	–	V
Collector–Base Cutoff Current	I_{CBO}	V_{CB} = 100V		–	–	100	nA
Emitter–Base Cutoff Current	I_{EBO}	V_{EB} = 3V		–	–	50	nA
		V_{EB} = 5V		–	–	10	μA
Collector–Emitter Cutoff Current	I_{CEO}	V_{CE} = 100V		–	–	10	μA
ON Characteristics (Note 1)							
Forward–Current Transfer Ratio	h_{FE}	V_{CE} = 10V	I_C = 0.1mA	55	–	–	
			I_C = 1.0mA	90	–	–	
			I_C = 10mA	100	–	–	
			I_C = 50mA	100	–	300	
			I_C = 150mA	60	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10mA, I_B = 1.0mA		–	–	0.3	V
		I_C = 50mA, I_B = 5.0mA		–	–	0.6	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 10mA, I_B = 1.0mA		–	–	0.8	V
		I_C = 50mA, I_B = 5.0mA		0.65	–	0.9	V

Note 1. Pulse test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%.

Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynmic Characteristics						
Forward Current Transfer Ratio	$\|h_{fe}\|$	I_C = 30mA, V_{CE} = 30V, f = 100MHz	2.0	–	5.8	
	h_{fe}	I_C = 10mA, V_{CE} = 10V, f = 1.0kHz	80	–	320	
Small–Signal Short–Circuit Input Impedance	h_{ie}	I_C = 10mA, V_{CE} = 10V, f = 1.0kHz	200	–	1200	Ω
Small–Signal Open–Circuit Output Admittance	h_{oe}	I_C = 10mA, V_{CE} = 10V, f = 1.0kHz	–	–	200	μs
Output Capacitance	C_{obo}	V_{CB} = 20V, I_E = 0, 100kHz ≤ f ≤ 1.0MHz	–	–	10	pF
Input Capacitance	C_{ibo}	V_{EB} = 1.0V, I_C = 0, 100kHz ≤ f ≤ 1.0MHz	–	–	75	pF
Noise Figure	NF	f = 100Hz	–	–	5.0	dB
		f = 1.0kHz	–	–	3.0	dB
		f = 10kHz	–	–	3.0	dB