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NTE287H (NPN) & NTE288H (PNP)
Silicon Complementary Transistors
High Voltage, General Purpose Amplifier

Absolute Maximum Ratings: (T_A = +25°C, unless otherwise specified)

Collector–Emitter Voltage, V_{CEO} 350V
Collector–Base Voltage, V_{CBO} 350V
Emitter–Base Voltage, V_{EBO}
NTE287H 6V
NTE288H 5V
Continuous Collector Current, I_C 500mA
Collector Power Dissipation, P_C 625mW
Derate Above +25°C . . . . . 5mW/°C
Operating Junction Temperature, T_J . . . . . +150°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0, Note 1	350	–	–	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100μA, I_E = 0	350	–	–	V
Emitter–Base Breakdown Voltage NTE287H	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	6	–	–	V
NTE288H			5	–	–	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 250V, I_E = 0	–	–	50	nA
Emitter Cutoff Current NTE287	I_{EBO}	V_{EB} = 5V, I_C = 0	–	–	50	μA
NTE288		V_{EB} = 4V, I_C = 0	–	–	50	μA

Note 1. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

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

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
DC Current Gain	h_{FE}	I_C = 1mA	V_{CE} = 10V, Note 1	20	–	–	
		I_C = 10mA		30	–	–	
		I_C = 30mA		30	–	200	
		I_C = 50mA		20	–	200	
		I_C = 100mA		15	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10mA, I_B = 1mA		–	–	0.3	V
		I_C = 20mA, I_B = 2mA		–	–	0.35	V
		I_C = 30mA, I_B = 3mA		–	–	0.5	V
		I_C = 50mA, I_B = 5mA		–	–	1	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 10mA, I_B = 1mA		–	–	0.75	V
		I_C = 20mA, I_B = 2mA		–	–	0.85	V
		I_C = 30mA, I_B = 3mA		–	–	0.9	V
Output Capacitance	C_{ob}	V_{CB} = 20V, I_E = 0, f = 1MHz		–	–	6	pF
Base–Emitter On Voltage	$V_{BE(on)}$	V_{CE} = 10V, I_C = 100mA		–	–	2	V
Current Gain Bandwidth Product	f_T	I_C = 10mA, V_{CE} = 20V, f = 20MHz, Note 1		40	–	200	MHz
The Following Parameters apply ONLY to the NTE288H							
Emitter–Base Capacitance	C_{EB}	V_{EB} = –0.5V, I_C = 0, f = 1MHz		–	–	100	pF
Turn On Time	t_{ON}	$V_{BE(off)}$ = 2V, V_{CC} = 100V, I_C = 50mA, I_{B1} = 10mA		–	–	200	ns
Turn Off Time	t_{OFF}	V_{CC} = 100V, I_C = 50mA, I_{B1} = I_{B2} = 10mA		–	–	3.5	ns

Note 1. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.