ELECTRONICS, INC.
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NTE2503
Silicon NPN Transistor
High Gain Switch

Features:
- High DC Current Gain
- High Current Capacity
- Low Collector–Emitter Saturation Voltage
- High Emitter–Base Voltage

Applications:
- AF Amplifier
- Various Driver

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

Collector–Emitter Voltage, V_{CEO} 25V
Collector–Base Voltage, V_{CBO} 30V
Emitter–Base Voltage, V_{EBO} 15V
Collector Current, I_C
  Continuous 700mA
  Pulse 1.5A
Collector Dissipation, P_C 600mW
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 Cutoff Current	I_{CBO}	V_{CB} = 20V, I_E = 0	–	–	0.1	µA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 10V, I_C = 0	–	–	0.1	µA
DC Current Gain	h_{FE}	I_C = 50mA, V_{CE} = 5V	800	1500	3200	
		I_C = 500mA, V_{CE} = 5V	600	–	–	
Current Gain–Bandwidth Product	f_T	I_C = 50mA, V_{CE} = 10V	–	270	–	MHz
Output Capacitance	C_{ob}	V_{CB} = 10V, f = 1MHz	–	9	–	pF

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Saturation Voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 10mA	–	0.15	0.50	V
Base Saturation Voltage	$V_{BE(sat)}$	I_C = 500mA, I_B = 10mA	–	0.9	1.2	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	30	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, R_{BE} = ∞	25	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	15	–	–	V
Turn–On Time	t_{on}	I_{B1} = 100mA, I_{B2} = I_C = 300mA, Pulse Width = 20μs, Duty Cycle ≤ 1%	–	0.1	–	μs
Storage Time	t_{stg}		–	0.6	–	μs
Fall Time	t_f		–	0.06	–	μs