ELECTRONICS, INC.
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NTE2524 (NPN) & NTE2525 (PNP)
Silicon Complementary Transistors
High Current Switch
TO251

Features:
- Low Collector–Emitter Saturation Voltage
- High Current and High f_T
- Excellent Linearity of h_{FE}
- Fast Switching Time
- TO251 Type Package

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

Collector Base Voltage, V_{CBO} 60V
Collector Emitter Voltage, V_{CEO} 50V
Emitter Base Voltage, V_{EBO} 6V
Collector Current, I_C
  Continuous 8A
  Pulse 12A
Collector Power Dissipation, P_C
  T_A = +25°C 1W
  T_C = +25°C 20W
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} = 40V, I_E = 0	–	–	1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4V, I_C = 0	–	–	1.0	μA
DC Current Gain	h_{FE}	V_{CE} = 2V, I_C = 500mA	100	–	400	
		V_{CE} = 2V, I_C = 6A	35	–	–	
Gain–Bandwidth Product NTE2524	f_T	V_{CE} = 5V, I_C = 1A	–	180	–	MHz
NTE2525			–	130	–	MHz
Output Capacitance NTE2524	C_{ob}	V_{CB} = 10V, f = 1MHz	–	65	–	pF
NTE2525			–	95	–	pF

Rev. 8–10

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Saturation Voltage NTE2524	$V_{CE(sat)}$	I_C = 4A, I_B = 200mA	–	200	400	mV
NTE2525			–	250	500	mV
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 4A, I_B = 200mA	–	0.95	1.2	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	60	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, R_{BE} = ∞	50	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	6	–	–	V
Turn–On Time	t_{on}	V_{CC} = 25V, V_{BE} = –5V, $10I_{B1} = -10I_{B2} = I_C$ = 4A, Pulse Width = 20μs, Duty Cycle ≤ 1%, Note 1	–	50	–	ns
Storage Time NTE2524	t_{stg}		–	500	–	ns
NTE2525			–	450	–	ns
Fall Time	t_f			20		ns

Note 1. For NTE2525, the polarity is reversed.