ELECTRONICS, INC.
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NTE2644
Silicon NPN Transistor
Darlington

Features:
- High DC Current Gain
- Low Saturation Voltage
- Zener Diode Included Between Collector and Base

Applications:
- Micro Motor Drive, Hammer Drive Applications
- Switching Applications
- Power Amplifier Applications

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

Collector-Base Voltage, V_{CBO} . . . . . 60 ±10V
Collector-Emitter Voltage, V_{CEO} . . . . . 60 ±10V
Emitter-Base Voltage, V_{EBO} 8V
Collector Current, I_C 2A
Base Current, I_B 500mA
Collector Power Dissipation, P_C 900mW
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} = 45V, I_E = 0	-	-	10	µA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 8V, I_C = 0	-	-	4	mA
Collecrtor-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	50	60	70	V
DC Current Gain	h_{FE}	V_{CE} = 2V, I_C = 1A (Pulsed)	2000	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 1mA (Pulsed)	-	-	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 1A, I_B = 1mA (Pulsed)	-	-	2.0	V
Transition Frequency	f_T	V_{CE} = 2V, I_C = 500mA (Pulsed)	-	100	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	-	20	-	pF
Unclamped Inductive Load Energy	$E_{S/B}$	L = 10mH, I_C = 1.3A, I_B = ±50mA	8.4	-	-	mJ

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Switching Times						
Turn-On Time	t_{on}	V_{CC} = 30V, I_{B1} = $-I_{B2}$ = 1mA, Duty Cycle ≤ 1%	-	0.4	-	µs
Storage Time	t_{stg}		-	4.0	-	µs
Fall Time	t_f		-	0.6	-	µs