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NTE2304 Silicon NPN Transistor High Current, High Speed Switch (Compl to NTE2314)

Description:

The NTE2304 is a silicon NPN transistor in a TO3P type package. Typical applications include relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features:

- Low Collector-Emitter Saturation Voltage
- Wide ASO and Resistant to Breakdowns

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ 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	15A
Peak	20A
Allowable Collector Dissipation ($T_C = +25^\circ\text{C}$), P_C	90W
Operating Junction Temperature, T_J	+150°C
Storage Ambient Temperature Range, T_{stg}	-55° to +150°C

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 40V, I_E = 0$	-	-	0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	-	-	0.1	mA
DC Current Gain	h_{FE}	$V_{CE} = 2V, I_C = 1A$	100	-	200	
		$V_{CE} = 2V, I_C = 8A$	30	-	-	
Current Gain-Bandwidth Product	f_T	$V_{CE} = 5V, I_C = 1A$	-	20	-	MHz
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 8A, I_B = 0.4A$	-	0.18	0.4	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	6	-	-	V
Turn-On Time	t_{on}	$10I_{B1} = -10I_{B2} = I_C = 2A,$ $PW = 20\mu s$	-	0.2	-	μs
Storage Time	t_{stg}		-	1.0	-	μs
Fall Time	t_f		-	0.1	-	μs

