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NTE2668 Silicon NPN Transistor High Current Switching

Features:

- Adoption of FBET, MBIT process
- Large Current Capacitance
- Low Collector-To-Emitter Saturation Voltage
- High Speed Switching
- High Allowable Power Dissipation

Applications:

- DC-DC Converter
- Relay Drivers
- Lamp Drivers
- Motor Drivers
- Strokes

Absolute Maximum Ratings: ($T_A = +25^{\circ}\text{C}$ unless otherwise specified)

Collector-Base Voltage, V_{CBO}	80V
Collector-Emitter Voltage, V_{CES}	80V
Collector-Emitter Voltage, V_{CEO}	50V
Emitter-Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	8A
Pulsed	11A
Base Current, I_B	2A
Collector Power Dissipation, P_C	
$T_A = +25^{\circ}\text{C}$	1.0W
$T_C = +25^{\circ}\text{C}$	15W
Operating Junction Temperature, T_J	+150°C
Storage 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}	$V_{CB} = 40\text{V}, I_E = 0$	-	-	0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$	-	-	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}, I_C = 500\text{mA}$	200	-	560	
Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 500\text{mA}$	-	330	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	-	28	-	pF
Collector-to-Emitter Saturation Voltage	V_{CE}	$I_C = 3.5\text{A}, I_B = 175\text{mA}$	-	160	240	mV
		$I_C = 2\text{A}, I_B = 40\text{mA}$	-	110	170	mV
Base-to-Emitter Saturation Voltage	V_{BE}	$I_C = 2\text{A}, I_B = 40\text{mA}$	-	0.83	1.2	V
Collector-to-Base Breakdown Voltage	V_{CBO}	$I_C = 10\mu\text{A}, I_E = 0$	80	-	-	V
Collector-to-Emitter Breakdown Voltage	V_{CES}	$I_C = 100\mu\text{A}, R_{BE} = \infty$	80	-	-	V
Collector-to-Emitter Breakdown Voltage	V_{CEO}	$I_C = 1\text{mA}, R_{BE} = \infty$	50	-	-	V
Emitter-to-Base Breakdown Voltage	V_{EBO}	$I_C = 10\mu\text{A}, I_C = 0$	6	-	-	V
Turn-On Time	t_{on}	Pulse Width = $20\mu\text{s}$, Duty Cycle $\leq 1\%$, $20I_{B1} = -20I_{B2} = I_C = 2.5\text{A}$, $V_{CC} = 25\text{V}$	-	30	-	ns
Storage Time	t_{stg}		-	420	-	ns
Fall Time	t_f		-	25	-	ns

