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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
- Strobes

**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	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$	-	-	0.1	$\mu\text{A}$
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

