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## NTE2678 Silicon NPN Transistor Power, High Voltage w/Built-In Damper Diode TO3P(H)IS Type Package

**Features:**

- Built-In Damper Diode
- High Voltage, High Speed

**Applications:**

- Color TV Horizontal Output

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

Collector-Base Voltage (Open Emitter), $V_{CBO}$ .....	1700V
Collector-Emitter Voltage (Open Base), $V_{CEO}$ .....	600V
Emitter-Base Voltage (Open Collector), $V_{EBO}$ .....	5V
Collector Current, $I_C$	
Continuous .....	6A
Peak .....	12A
Base Current, $I_B$ .....	3A
Collector Power Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ .....	50W
Operating Junction Temperature, $T_J$ .....	$+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 200\text{mA}, I_C = 0$	5	-	-	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 1\text{A}$	-	-	5.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{A}, I_B = 1\text{A}$	-	-	1.5	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 500\text{V}, I_E = 0$	-	-	10	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$	66	-	200	mA
DC Current Gain	$h_{FE}$	$I_C = 1\text{A}, V_{CE} = 5\text{V}$	8	-	28	
Transition Frequency	$f_T$	$I_C = 100\text{mA}, V_{CE} = 10\text{V}$	1	3	-	MHz
Collector Output Capacitance	$C_{OB}$	$I_E = 0, V_{CB} = 10\text{V}, f = 1\text{MHz}$	-	250	-	pF
Diode Forward Voltage	$V_F$	$I_F = 5\text{A}$	-	-	2.0	V
Storage Time	$t_s$	Resistive Load, $I_{CP} = 5\text{A}, I_{B1} = 1\text{A},$ $I_{B2} = -2\text{A}, R_L = 40\Omega$	-	-	6.0	$\mu\text{s}$
Fall Time	$t_f$		-	-	0.4	$\mu\text{s}$

