



ELECTRONICS, INC.

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NTE2637 Silicon NPN Transistor CRT Horizontal Deflection, High Voltage, Fast Switching

Features:

- High Breakdown Voltage Capability
- Fully Insulated Package for Easy Mounting
- Low Saturation Voltage
- High Switching Speed

Applications:

- Horizontal Deflection Stage in Standard and High Resolution Displays for TVs and Monitors
- Switching Power Supply for TVs and Monitors

Absolute Maximum Ratings:

Collector–Base Voltage ($I_E = 0$), V_{CBO}	1700V
Collector–Emitter Voltage ($I_B = 0$), V_{CEO}	700V
Emitter–Base Voltage ($I_C = 0$), V_{EBO}	10V
Collector Current, I_C	
Continuous	8A
Peak ($t_p < 5ms$)	15A
Base Current, I_B	
Continuous	5A
Peak ($t_p < 5ms$)	8A
Total Dissipation ($T_C = +25^\circ C$), P_{tot}	60W
Maximum Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	–65° to +150°C
Maximum Thermal Resistance, Junction–to–Case, R_{thJC}	2.08°C/W

Electrical Characteristics: ($T_C = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Collector Cutoff Current	I_{CES}	$V_{CE} = 1700V,$ $V_{BE} = 0$		–	–	1	mA
			$T_J = +125^\circ C$	–	–	2	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	–	–	100	μA	

Electrical Characteristics (Cont'd): ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Sustaining Voltage	$V_{CE(sus)}$	$I_C = 100\text{mA}$	700	–	–	V
Emitter–Base Voltage	V_{EBO}	$I_E = 10\text{mA}, I_C = 0$	10	–	–	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 1.25\text{A}$, Note 1	–	–	1.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{A}, I_B = 1.25\text{A}$, Note 1	–	–	1.3	V
DC Current Gain	h_{FE}	$I_C = 5\text{A}, V_{CE} = 5\text{V}$, Note 1	6	–	–	
			$T_J = +100^\circ\text{C}$	4	–	–
Resistive Load						
Storage Time	t_s	$V_{CC} = 400\text{V}, I_C = 5\text{A}, I_{B1} = 1.25\text{A},$ $I_{B2} = 2.5\text{A}$	–	2.7	3.9	μs
Fall Time	t_f		–	190	280	ns
Resistive Load						
Storage Time	t_s	$I_C = 5\text{A}, f = 15625\text{Hz}, I_{B1} = 1.25\text{A},$ $I_{B2} = 2.5\text{A},$ $V_{ceflyback} = 1050 \sin(\pi/10 \cdot 10^6)t \text{ V}$	–	2.3	–	μs
Fall Time	t_f		–	350	–	ns
Storage Time	t_s	$I_C = 5\text{A}, f = 31250\text{Hz}, I_{B1} = 1.25\text{A},$ $I_{B2} = 2.5\text{A},$ $V_{ceflyback} = 1200 \sin(\pi/10 \cdot 10^6)t \text{ V}$	–	2.3	–	μs
Fall Time	t_f		–	200	–	ns

Note 1. Pulsed: Pulse Duration = $300\mu\text{s}$, Duty Cycle = 1.5%.

