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NTE165
Silicon NPN Transistor
TV Horizontal Output

Description:
The NTE165 is a silicon NPN transistor in a TO3 type package designed for use in color TV horizontal output applications.

Features:
- High Voltage
- High Power
- High Switching Speed
- Good Stability

Applications:
- Consumer
- Power Supply
- Color TV Horizontal Deflection

Absolute Maximum Ratings:
Collector–Emitter Voltage (V_{BE} = 0), V_{CES} 1500V
Collector–Emitter Voltage (I_B = 0), V_{CEO} 700V
Emitter–Base Voltage (I_C = 0), V_{EB} 10V
Collector Current, I_C
Continuous 8A
Peak (t_p < 5ms) 15A
Total Device Dissipation (T_C = +25°C), P_{tot} 150W
Maximum Operating Junction Temperature, T_J . . . . . +175°C
Storage Temperature Range, T_{stg} . . . . . –65° to +175°C
Maximum Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 1.0°C/W

Electrical Characteristics: (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CES}	V_{CE} = 1500V, V_{BE} = 0	–	–	1.0	mA
		V_{CE} = 1500V, V_{BE} = 0, T_C = +125°C	–	–	2.0	mA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	–	100	μA
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	I_C = 100mA	700	–	–	V
Emitter–Base Voltage	V_{EBO}	I_E = 10mA, I_C = 0	10	–	–	V

Note 1. Pulse test: Pulse Width = 300μs, Duty Cycle ≤ 2%.

Electrical Characteristics (Cont'd): (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 4.5A, I_B = 2A, Note 1	–	–	1.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 4.5A, I_B = 2A, Note 1	–	–	1.3	V
Current Gain–Bandwidth Product	f_T	V_{CE} = 5V, I_C = 100mA, f = 5MHz	–	7	–	MHz
Switching Characteristics (Inductive Load)						
Storage Time	t_s	V_{CC} = 140V, I_C = 4.5A, h_{FE} = 2.5, L_C = 0.9mH, L_B = 3µH	–	7.0	–	µs
Fall Time	t_f		–	0.55	–	µs

Note 1. Pulse test: Pulse Width = 300µs, Duty Cycle ≤ 2%.