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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: (T_A = +25°C unless otherwise specified)

Collector–Emitter Voltage, V_{CES} 1500V
Emitter–Base Voltage, V_{EBO} 5V
Collector Current, I_C
  Continuous 5A
  Peak 7.5A
Base Current (Peak), I_{BM} 4A
Total Power Dissipation ($T_C \le +95°C$), P_{tot} 12.5W
Maximum Operating Junction Temperature, T_J . . . . . +115°C
Storage Temperature Range, T_{stg} . . . . . –65° to +115°C
Maximum Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 1.6°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
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 1mA, I_C = 0	5	–	–	V
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 4.5A	2.25	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 4.5A, I_B = 2A	–	–	5	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Base−Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 4.5A, I_B = 2A	–	–	1.5	V
Collector−Emitter Sustaining Voltage	$V_{CEO(sus)}$	I_C = 100mA, I_B = 0, L = 25mH	700	–	–	V
Emitter−Base Voltage	V_{EBO}	I_E = 10mA, I_C = 0	10	–	–	V
Transition Frequency	f_T	V_{CE} = 5V, I_C = 100mA	–	7	–	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	–	125	–	pF
Switching Characteristics						
Storage Time	t_s	I_C = 4.5A (Peak), $I_{B(end)}$ = 1.8A	–	0.7	–	μs
Fall Time	t_f	I_C = 4.5A (Peak), $I_{B(end)}$ = 1.8A	–	10	–	μs