ELECTRONICS, INC.
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NTE2670 (NPN) & NTE2671 (PNP)
Silicon Complementary Transistors
Silicon Perforated Emitter Technology
Audio Power Output
TO3PBL Type Package

Description:

The NTE2670 and NTE2671 are silicon complementary transistors in a TO3PBL type package that utilize Perforated Emitter technology specifically designed for high power audio output, disk head positioners and linear applications.

Features:

- High DC Current Gain – h_{FE} = 25 Min @ I_C = 8A
- Excellent Gain Linearity

Absolute Maximum Ratings:

Collector–Base Voltage, V_{CBO} 400V
Collector–Emitter Voltage, V_{CEO} 250V
Collector–Emitter Voltage (1.5V), V_{CEX} 400V
Emitter–Base Voltage, V_{EBO} 5V
Collector Current, I_C
  Continuous 16A
  Peak (Note 1) 30A
Base Current–Continuous, I_B 5A
Total Power Dissipation (T_C = +25°C), P_D 200W
  Derate Above 25°C . . . . . 1.43W/°C
Operating Junction Temperature Range, T_J . . . . . –55° to +150°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C
Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 0.7°C/W

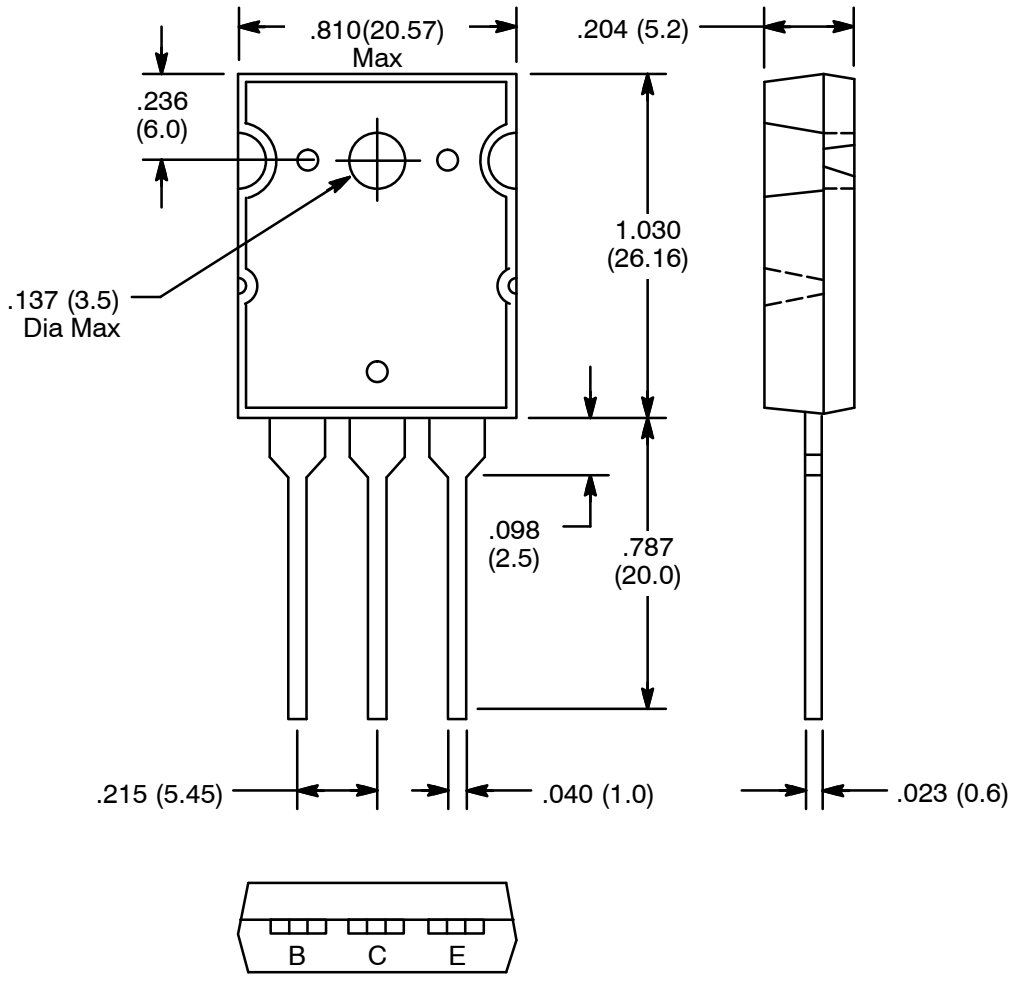
Note 1. Pulse Test: Pulse Width = 5.0 μs, Duty Cycle ≤10%.
Note 2. Matched complementary pairs are available upon request (NTE2671MCP). Matched complementary pairs have their gain specification (h_{FE}) matched to within 10% of each other.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$	I_C = 100mA, I_B = 0	250	–	–	V
Collector Cutoff Current	I_{CEO}	V_{CE} = 200V, I_B = 0	–	–	100	μA
	I_{CEX}	V_{CE} = 250V, $V_{BE(off)}$ = 1.5V	–	–	100	μA
Emitter Cutoff Current	I_{EBO}	V_{CE} = 5V, I_C = 0	–	–	100	μA

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Second Breakdown						
Second Breakdown Collector Current with Base Forward Biased	$I_{S/b}$	V_{CE} = 50V, t = 1s (non−repetitive)	4.0	–	–	A
		V_{CE} = 80V, t = 1s (non−repetitive)	2.25	–	–	A
ON Characteristics						
DC Current Gain	h_{FE}	I_C = 8A, V_{CE} = 5V	25	–	75	
		I_C = 16A, V_{CE} = 5V	8	–	–	
Base−Emitter Voltage	$V_{BE(on)}$	I_C = 8A, V_{CE} = 5V	–	–	2.2	V
Collector−Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 8A, I_B = 800mA	–	–	1.4	V
		I_C = 16A, I_B = 3.2A	–	–	4.0	V
Dynamic Characteristics						
Total Harmonic Distortion at the Output (h_{FE} unmatched)	THD	V_{RMS} = 28.3V, f = 1kHz, P_{LOAD} = 100W_{RMS}	–	0.8	–	%
(h_{FE} matched)		Matched pair h_{FE} = 50 @ 5A/5V	–	0.08	–	%
Current Gain Bandwidth Product	f_T	I_C = 1A, V_{CE} = 1−V, f_{test} = 1MHz	4	–	–	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f_{test} = 1MHz	–	–	500	pF



Note: Collector connected to heat sink.

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