



**ELECTRONICS, INC.**  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## 2N3773

### Silicon NPN Transistor Audio Amplifier Output TO-3 Type Package

**Description:**

The 2N3773 is a planar NPN transistors in a TO-3 type package intended for use in linear amplifiers and inductive switching applications.

**Features:**

- High Power Dissipation
- Low Collector-Emitter Saturation Voltage

**Absolute Maximum Ratings:**

Collector-Emitter Voltage ( $I_B = 0$ ), $V_{CEO}$ .....	140V
Collector-Emitter Voltage ( $V_{BE} = -1.5V$ ), $V_{CEV}$ .....	160V
Collector-Base Voltage ( $I_E = 0$ ), $V_{CBO}$ .....	160V
Emitter-Base Voltage ( $I_C = 0$ ), $V_{EBO}$ .....	7V
Collector Current, $I_C$ .....	16A
Collector Peak Current ( $t_p < 5ms$ ), $I_{CM}$ .....	30A
Base Current, $I_B$ .....	4A
Base Peak Current ( $t_p < 1ms$ ), $I_{BM}$ .....	15A
Total Dissipation ( $T_C \leq +25^\circ C$ ), $P_C$ .....	150W
Operating Junction Temperature, $T_j$ .....	$+200^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ C$ to $+200^\circ C$
Thermal Resistance, Junction-to-Case, $R_{thJC}$ .....	$1.17^\circ C/W$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CEV}$	$V_{CE} = 140V,$ $V_{BE} = -1.5V$		-	-	2 mA
			$T_C = +150^\circ C$	-	-	10 mA
Collector Cutoff Current	$I_{CEO}$	$V_{CE} = 120V, I_B = 0$	-	-	10	mA
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 140V, I_E = 0$	-	-	2	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 7V, I_C = 0$	-	-	5	mA

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 200\text{mA}, I_B = 0, \text{Note 1}$	140	-	-	V	
Collector-Emitter Sustaining Voltage	$V_{CEV(sus)}$	$I_C = 100\text{mA}, V_{BE} = -1.5\text{V}, \text{Note 1}$	160	-	-	V	
Collector-Emitter Sustaining Voltage	$V_{CER(sus)}$	$I_C = 200\text{mA}, R_{BE} = 100\Omega, \text{Note 1}$	150	-	-	V	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 8\text{A}, I_B = 800\text{mA}, \text{Note 1}$	-	-	1.4	V	
		$I_C = 16\text{A}, I_B = 3.2\text{A}, \text{Note 1}$	-	-	4	V	
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 4\text{V}, I_C = 8\text{A}, \text{Note 1}$	-	-	2.2	V	
DC Current Gain	$h_{FE}$	$V_{CE} = 4\text{V}, \text{Note 1}$	$I_C = 8\text{A}$	15	-	60	
			$I_C = 16\text{A}$	5	-	-	
Second Breakdown Collector Current	$I_{s/b}$	$V_{CE} = 30\text{V}, t = 1\text{sec (non-repetitive)}$	5	-	-	A	

Note 1. Pulse Test: Pulse Width =  $300\mu\text{s}$ . Duty Cycle  $\leq 2\%$ .

