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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 $\leq 2\%$.

