



HIGH POWER TRANSISTOR

NPN 2N3773

16A 150W

Technical Data

...designed for high power audio and linear applications. These devices can also be used in power switching circuits such as relay or solenoid drivers, dc to dc converters or inverters.

- ☞ DC Current Gain - $h_{FE} = 15 - 60 @ I_C = 8A_{dc}, V_{CE}=4V$
- ☞ Collector – Emitter Saturation Voltage $-V_{CE(SAT)} = 1.1V @ I_C = 8A, I_B=0.8A$
- ☞ Excellent Safe Operating Area: 150 W @ 100V
- ☞ TO-3 Package

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector- Emitter Voltage	V_{CEO}	140	Vdc
Collector- Emitter Voltage	V_{CER}	150	Vdc
Collector – Base Voltage	V_{CB}	160	Vdc
Emitter Base Voltage	V_{EB}	7	Vdc
Collector Current – Continuous	I_C	16	Adc
---Peak(1)		30	
Base Current – Continuous	I_B	4	Adc
---Peak(1)		15	
Total Power Dissipation @ TC = 25°C	PD	150	Watts
Derate above 25°C		0.855	W/°C
Operating and Storage junction Temperature Range	T_j, T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	R_{thjc}	1.17	°C/W



ELECTRICAL CHARACTERISTICS : [Tc = 25 °C unless otherwise noted]

Characteristic	Symbol	Min	Typ	Max	Unit
* OFF CHARACTERISTICS :					
Collector–Emitter Sustaining Voltage (1) [Ic =200 mAdc, I _B = 0]	V _{CEO(sus)}	140			Vdc
Collector–Emitter Sustaining Voltage (1) [Ic =200 mAdc, R _{BE} = 100 Ohms]	V _{CER(sus)}	150			Vdc
Collector–Emitter Sustaining Voltage (1) [Ic =100 mAdc, V _{BE(off)} =1.5Vdc,R _{BE} =100 Ohms]	V _{CEx(sus)}	160			Vdc
Collector Cutoff Current [V _{CE} =120 Vdc, I _B = 0]	I _{CEO}			10	mAdc
Collector Cutoff Current [V _{CE} =140 Vdc, V _{BE(off)} =1.5Vdc]	I _{CEX}			2	mAdc
Collector Cutoff Current [V _{CB} = 140 Vdc, I _E =0]	I _{CBO}			2	mAdc
Emitter Cutoff Current [V _{EB} = 7.0 Vdc , Ic = 0]	I _{EBO}			5.0	mAdc
* ON CHARACTERISTICS (1):					
DC Current Gain [Ic = 16.0 Adc , V _{CE} = 4.0 Vdc] [Ic = 8Adc , V _{CE} = 4.0 Vdc]	h _{FE}	5 15		60	
Collector-Emitter Saturation Voltage [Ic = 8.0 Adc , I _B =800 mAdc] [Ic = 16 Adc , I _B = 3.2 Adc]	V _{CE(sat)}			1.4 4.0	Vdc
Base-Emitter on Voltage [Ic = 8.0 Adc , V _{CE} = 4.0. V _{DC}]	V _{BE(on)}			2.2	Vdc
SECOND BREAKDOWN					
Second Breakdown Collector current With Base Forward Biased [V _{CE} =100 Vdc, t = 1.0 s Nonrepetitive]	Is/b	1.5			Adc
DYNAMIC CHARACTERISTICS :					
Small Signal Current Gain [I _C = 1.0 Adc, V _{CE} =4.0 Vdc, f=1.0kHz]	hfe	40			

- Indicates within JEDEC Registration.
- (1) Pulse Test : Pulse Width <300µs , Duty Cycle < 2.0%