

TM

**Seismo-Quake**

**LET IT SHAKE !**

**Educational**

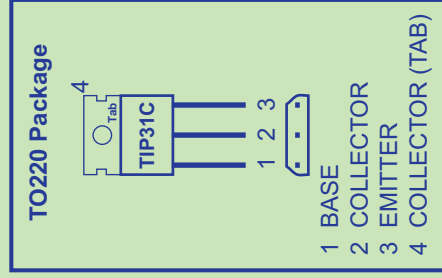
**Technological**

**Innovative**

**Electronic**

# TIP31C

Datasheet for the TIP31C NPN Silicon Power Transistor



The TIP31C is designed to withstand a maximum collector current of 3 Ampere at a maximum Collector-Emitter voltage of 100 Volts dc.

Parameter	Symbol	Min	Typ	Max	Unit
Collector-Emitter Voltage	$V_{CE}$			100.0	Vdc
Collector-Base Voltage	$V_{CB}$			100.0	Vdc
Emitter-Base Voltage	$V_{EB}$			5.0	Vdc
Collector Current Continuous	$I_C$			3.0	Adc
Collector Current Peak	$I_C$			5.0	Adc
Total Power Dissipation @ $T_C = 25^\circ\text{C}$	$P_D$			40	Watt
Total Power Dissipation @ $T_A = 25^\circ\text{C}$	$P_D$			2.0	Watt
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$			62.5	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$			3.125	$^\circ\text{C/W}$
DC Current Gain $I_C = 1.0$ Adc, $V_{CE} = 4.0$ Vdc	$h_{FE}$	25			
DC Current Gain $I_C = 3.0$ Adc, $V_{CE} = 4.0$ Vdc	$h_{FE}$	10		50	
Collector-Emitter Saturation Voltage $I_C = 3.0$ Adc, $I_B = 375$ mAdc	$V_{CE(SAT)}$			1.2	Vdc
Base-Emitter On Voltage $I_C = 3.0$ Adc, $V_{CE} = 4.0$ Vdc	$V_{BE(ON)}$			1.8	Vdc
Current Gain Bandwidth $I_C = 500$ mAdc, $V_{CE} = 10$ Vdc	$f_r$	3.0			MHz
Small Signal Current Gain $I_C = 0.5$ Adc, $V_{CE} = 10$ Vdc	$h_{fe}$	20			