

# 深圳市晶泰源电子有限公司

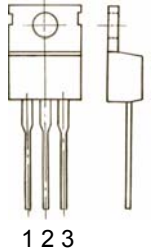
## TIP31/31A/31B/31C TRANSISTOR (NPN)

### FEATURES

Medium Power Linear Switching Applications

### TO-220

1. BASE
2. COLLECTOR
3. EMITTER



### MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	TIP31	TIP31A	TIP31B	TIP31C	Units
$V_{CB0}$	Collector-Base Voltage	40	60	80	100	V
$V_{CE0}$	Collector-Emitter Voltage	40	60	80	100	V
$V_{EBO}$	Emitter-Base Voltage	5				V
$I_C$	Collector Current -Continuous	3				A
$P_C$	Collector Power Dissipation	2				W
$T_j$	Junction Temperature	150				$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-55to+150				$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	TIP31 TIP31A TIP31B TIP31C	$V(BR)_{CBO}$	40 60 80 100		V
Collector-emitter breakdown voltage *	TIP31 TIP31A TIP31B TIP31C	$V(BR)_{CEO}$	40 60 80 100		V
Emitter-base breakdown voltage		$V(BR)_{EBO}$	5		V
Collector cut-off current	TIP31 TIP31A TIP31B TIP31C	$I_{CBO}$		200	$\mu\text{A}$
Collector cut-off current	TIP31/31A TIP31B/31C	$I_{CEO}$		0.3	mA
Emitter cut-off current		$I_{EBO}$		1	mA
DC current gain		$h_{FE(1)}$	25		
		$h_{FE(2)}$	10	50	
Collector-emitter saturation voltage		$V_{CE(sat)}$		1.2	V
Base-emitter voltage		$V_{BE(on)}$		1.8	V
Transition frequency		$f_T$	3		MHz

\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$