

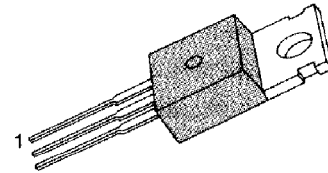
**MEDIUM POWER LINEAR
SWITCHING APPLICATIONS**

• Complement to TIP31/31A/31B/31C

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage : TIP32	V_{CE0}	-40	V
: TIP32A		-60	V
: TIP32B		-80	V
: TIP32C		-100	V
Collector Emitter Voltage : TIP32	V_{CEO}	-40	V
: TIP32A		-60	V
: TIP32B		-80	V
: TIP32C		-100	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current (DC)	I_C	-3	A
Collector Current (Pulse)	I_C	-5	A
Base Current	I_B	-3	A
Collector Dissipation ($T_C=25^\circ\text{C}$)	P_C	40	W
Collector Dissipation ($T_A=25^\circ\text{C}$)	P_C	2	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ 150	$^\circ\text{C}$

TO-220



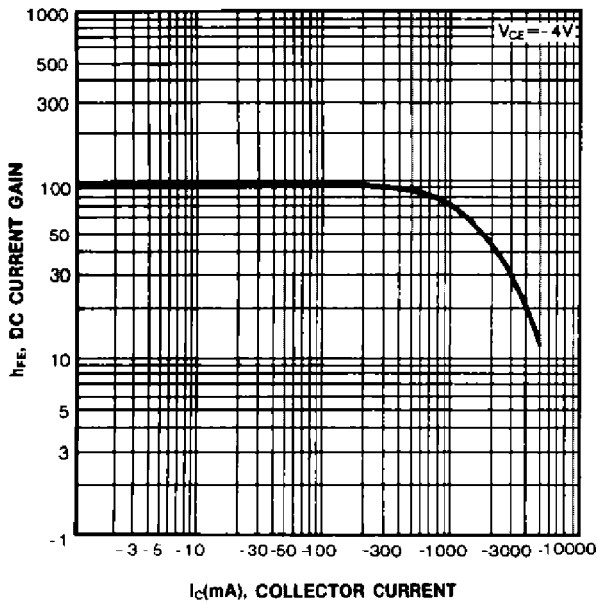
1.Base 2.Collector 3.Emitter

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

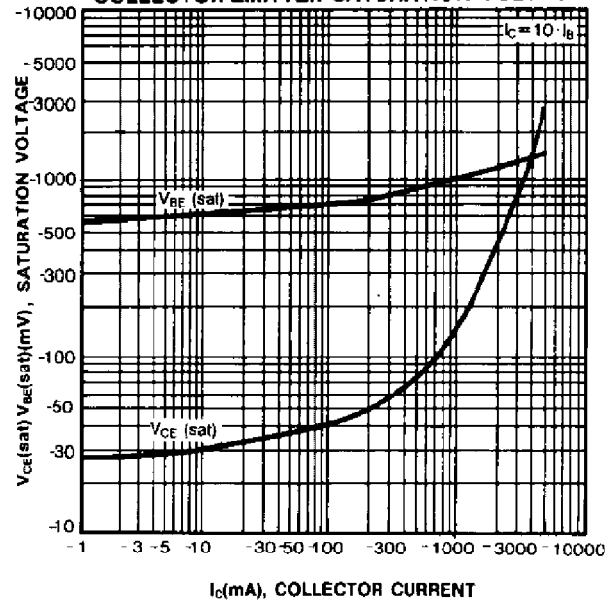
Characteristic	Symbol	Test Conditions	Min	Max	Unit
*Collector Emitter Sustaining Voltage : TIP32	$BV_{CEO(sus)}$	$I_C = -30\text{mA}, I_B = 0$	-40		V
: TIP32A			-60		V
: TIP32B			-80		V
: TIP32C			-100		V
Collector Cutoff Current : TIP32/32A	I_{CEO}	$V_{CE} = -30\text{V}, I_B = 0$		- 0.3	mA
:		$V_{CE} = -60\text{V}, I_B = 0$		- 0.3	mA
TIP32B/32C	I_{CES}	$V_{CE} = -40\text{V}, V_{EB} = 0$		- 200	μA
Collector Cutoff Current : TIP32		$V_{CE} = -60\text{V}, V_{EB} = 0$		- 200	μA
: TIP32A		$V_{CE} = -80\text{V}, V_{EB} = 0$		- 200	μA
: TIP32B		$V_{CE} = -100\text{V}, V_{CE} = 0$		- 200	μA
: TIP32C	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$		- 1	mA
Emitter Cutoff Current	h_{FE}	$V_{CE} = -4\text{V}, I_C = -1\text{A}$	25		
*DC Current Gain		$V_{CE} = -4\text{V}, I_C = -3\text{A}$	10	50	
*Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -3\text{A}, I_B = -375\text{mA}$		- 1.2	V
*Base Emitter Saturation Voltage	$V_{BE(on)}$	$V_{CE} = -4\text{V}, I_C = -3\text{A}$		- 1.8	V
Current Gain Bandwidth Product	f_T	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$ $f = 1\text{MHz}$	3.0		MHz

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

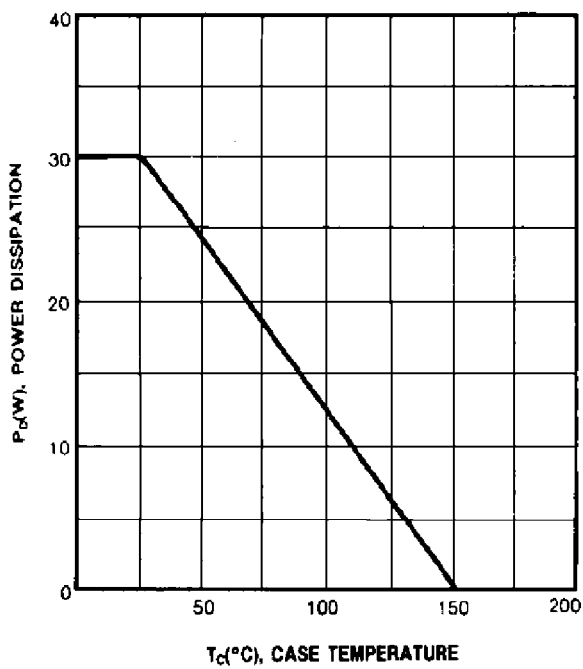
DC CURRENT GAIN



**BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE**



POWER DERATING



SAFE OPERATING AREA

