

Transistors

Order code	Manufacturer code	Description
81-0164	n/a	TIP42A 65W 60V PNP GP TRANSISTOR

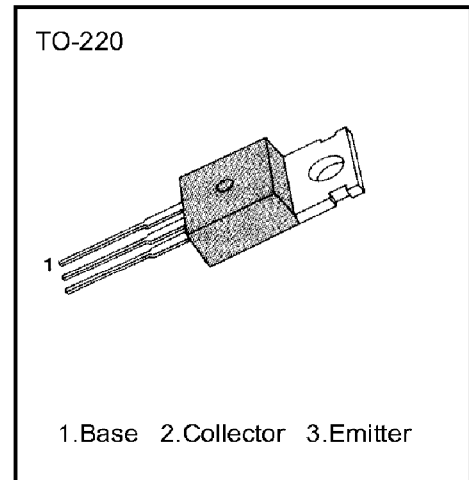
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The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 04/07/2003

**MEDIUM POWER LINEAR
SWITCHING APPLICATIONS**

- Complement to TIP41/41A/41B/41C

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage : TIP42	V_{CBO}	-40	V
: TIP42A		-60	V
: TIP42B		-80	V
: TIP42C		-100	V
Collector Emitter Voltage : TIP42	V_{CEO}	-40	V
: TIP42A		-60	V
: TIP42B		-80	V
: TIP42C		-100	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current (DC)	I_C	-6	A
Collector Current (Pulse)	I_C	-10	A
Base Current	I_B	-2	A
Collector Dissipation ($T_C=25^\circ\text{C}$)	P_C	65	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	$^\circ\text{C}$

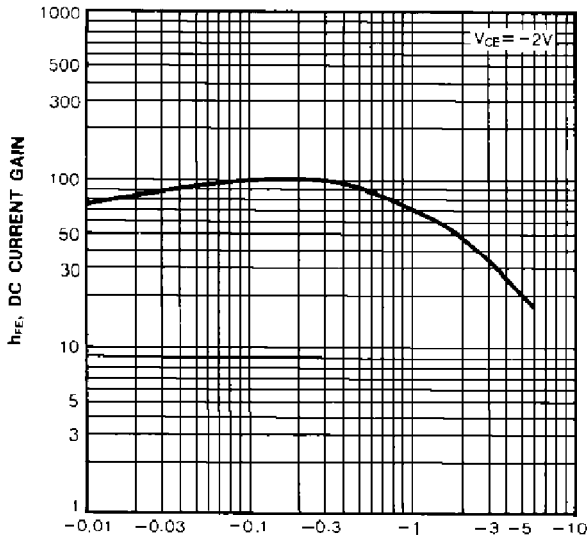


ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$)

Characteristic	Symbol	Test Conditions	Min	Max	Unit
*Collector Emitter Sustaining Voltage : TIP42	$BV_{CEO(sus)}$	$I_C = -30\text{mA}, I_B = 0$	-40		V
: TIP42A			-60		V
: TIP42B			-80		V
: TIP42C			-100		V
Collector Cutoff Current : TIP42/42A	I_{CEO}	$V_{CE} = -30\text{V}, I_B = 0$		-0.7	mA
: TIP42B/42C		$V_{CE} = -60\text{V}, I_B = 0$		-0.7	mA
Collector Cutoff Current : TIP42	I_{CES}	$V_{CE} = -40\text{V}, V_{EB} = 0$		-400	μA
: TIP42A		$V_{CE} = -60\text{V}, V_{EB} = 0$		-400	μA
: TIP42B		$V_{CE} = -80\text{V}, V_{EB} = 0$		-400	μA
: TIP42C		$V_{CE} = -100\text{V}, V_{EB} = 0$		-400	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$		-1	mA
*DC Current Gain	h_{FE}	$V_{CE} = -4\text{V}, I_C = -0.3\text{A}$	30		
		$V_{CE} = -4\text{V}, I_C = -3\text{A}$	15	75	
*Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -6\text{A}, I_B = -600\text{mA}$		-1.5	V
*Base-Emitter Saturation Voltage	$V_{BE(on)}$	$V_{CE} = -4\text{V}, I_C = -6\text{A}$		-2.0	V
Current Gain Bandwidth Product	f_T	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$ $f = 1\text{MHz}$	3.0		MHz

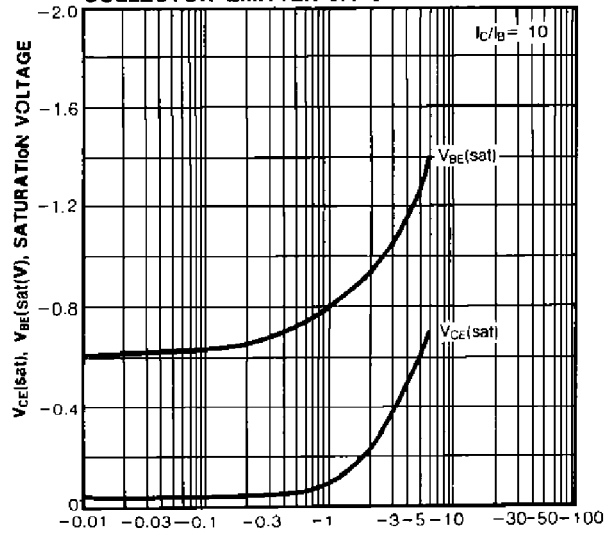
* Pulse Test : $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

DC CURRENT GAIN



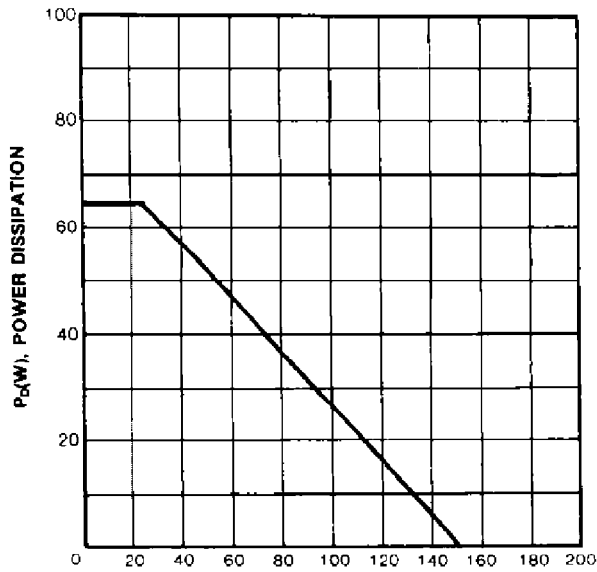
I_C (A), COLLECTOR CURRENT

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



I_C (A), COLLECTOR CURRENT

POWER DERATING



T_C (°C), CASE TEMPERATURE

SAFE OPERATING AREA

