

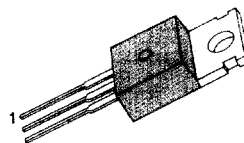
**MEDIUM POWER LINEAR
SWITCHING APPLICATIONS**

- Complementary to TIP125/126/127

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage : TIP120	V_{CBO}	60	V
: TIP121		80	V
: TIP122		100	V
Collector-Emitter Voltage	V_{CEO}	60	V
: TIP120		80	V
: TIP121		100	V
: TIP122		100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)	I_B	8	A
Base Current (DC)	P_C	120	mA
Collector Dissipation ($T_A=5^\circ\text{C}$)	P_C	2	W
Collector Dissipation ($T_C=5^\circ\text{C}$)	T_J	65	W
Junction Temperature	T_{STG}	150	$^\circ\text{C}$
Storage Temperature		-65 ~ 150	$^\circ\text{C}$

TO-220



1. Base 2. Collector 3. Emitter

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

Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 100\text{mA}, I_B = 0$			
: TIP120			60		V
: TIP121			80		V
: TIP122			100		V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 30\text{V}, I_B = 0$		2	mA
: TIP120		$V_{CE} = 40\text{V}, I_B = 0$		2	mA
: TIP121		$V_{CE} = 50\text{V}, I_B = 0$		2	mA
Collector Cutoff Current	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$		1	mA
: TIP120		$V_{CB} = 80\text{V}, I_E = 0$		1	mA
: TIP121		$V_{CB} = 100\text{V}, I_E = 0$		1	mA
: TIP122		$V_{BE} = 5\text{V}, I_C = 0$		2	mA
Emitter Cutoff Current	I_{EBO}	$V_{CE} = 3\text{V}, I_C = 0.5\text{A}$	1000		
* DC Current Gain	h_{FE}	$V_{CE} = 3\text{V}, I_C = 3\text{A}$	1000		
* Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}, I_B = 12\text{mA}$		2.0	V
		$I_C = 5\text{A}, I_B = 20\text{mA}$		4.0	V
* Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 3\text{V}, I_C = 3\text{A}$		2.5	V
Output Capacitance	C_{OB}	$V_{CB} = 10\text{V}, I_E = 0, f = 0.1\text{MHz}$		200	pF

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

