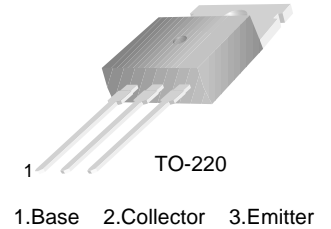


**■ ■ APPLICATION:** Medium Power Linear Switching Applications.

**■ ■ MAXIMUM RATINGS** ( $T_a=25^\circ\text{C}$ )

PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	$V_{CB0}$	80	V
Collector-emitter voltage	$V_{CEO}$	80	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	3	A
Base current	$I_B$	1	A
Collector Power Dissipation ( $T_a=25^\circ\text{C}$ )	$P_C$	2	W
Collector Power Dissipation ( $T_c=25^\circ\text{C}$ )	$P_C$	40	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65~150	$^\circ\text{C}$


**■ ■ ELECTRICAL CHARACTERISTICS**

 ( $T_a=25^\circ\text{C}$ )

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
DC Current Gain	$h_{FE1}$	10		50		$V_{CE}=4\text{V}, I_C=3\text{A}$
	$h_{FE2}$	25				$V_{CE}=4\text{V}, I_C=1\text{A}$
Collector-Emitter Cut-off Current	$I_{CEO}$			0.3	mA	$V_{CE}=60\text{V}, I_E=0$
Emitter-Base Cut-off Current	$I_{EBO}$			1	mA	$V_{EB}=5\text{V}, I_C=0$
Collector-Base Breakdown Voltage	$BV_{CB0}$	80			V	$I_C=1\text{mA}, I_E=0$
Base-Emitter on Voltage	$BV_{CEO}$	80			V	$I_C=30\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$BV_{EBO}$	5			V	$I_E=1\text{mA}, I_C=0$
Base-Emitter on Voltage	$V_{BE(on)}$			1.8	V	$V_{CE}=4\text{V}, I_C=3\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			1.2	V	$I_C=3\text{A}, I_B=0.375\text{A}$
Gain bandwidth product	$f_T$	3			MHz	$V_{CE}=-10\text{V}, I_C=-0.5\text{A}, f=1\text{MHz}$

**■ ■  $h_{FE}$  Classification And Marking**

Mark	TIP31B
Classification	
$h_{FE}$	10~50