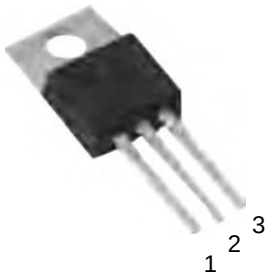
TIP42/42A/42B/42C

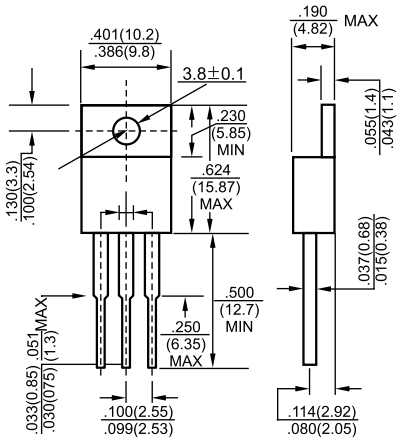
TO-220 Transistor (PNP)

RoHS COMPLIANT



1. BASE
2. COLLECTOR
3. EMITTER

TO-220



Dimensions in inches and (millimeters)

Features

- ✧ Medium Power Linear Switching Applications
- ✧ Complement to TIP41/41A/41B/41C

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	TIP42	TIP42A	TIP42B	TIP42C	Units
V_{CBO}	Collector-Base Voltage	-40	-60	-80	-100	V
V_{CEO}	Collector-Emitter Voltage	-40	-60	-80	-100	V
V_{EBO}	Emitter-Base Voltage	-5				V
I_C	Collector Current -Continuous	-6				A
P_C	Collector Power Dissipation	2				W
T_J	Junction Temperature	150				℃
T_{stg}	Storage Temperature Range	-55to+150				℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter		Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	**TIP42**	$V_{(BR)CBO}$	I_C= -1mA, I_E=0	-40		V
	TIP42A			-60		
	TIP42B			-80		
	TIP42C			-100		
Collector-emitter breakdown voltage	**TIP42**	$V_{(BR)CEO}$*	I_C= -30mA, I_B=0	-40		V
	TIP42A			-60		
	TIP42B			-80		
	TIP42C			-100		
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E= -1mA, I_C=0	-5		V
Collector cut-off current	**TIP42**	I_{CBO}	V_{CB}=-40V, I_E=0		-0.4	mA
	TIP42A		V_{CB}=-60V, I_E=0			
	TIP42B		V_{CB}=-80V, I_E=0			
	TIP42C		V_{CB}=-100V, I_E=0			
Collector cut-off current	**TIP42/42A**	I_{CEO}	V_{CE}= -30V, I_B= 0		-0.7	mA
	TIP42B/42C		V_{CE}= -60V, I_B= 0			
Emitter cut-off current		I_{EBO}	V_{EB}=-5V, I_C=0		-1	mA
DC current gain		$h_{FE(1)}$	V_{CE}=-4V, I_C=-0.3A	30		
		$h_{FE(2)}$	V_{CE}=-4 V, I_C= -3A	15	75	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=-6A, I_B=-0.6A		-1.5	V
Base-emitter voltage		V_{BE}	V_{CE}=-4V, I_C=-6A		-2	V
Transition frequency		f_T	V_{CE}=-10V,I_C=-0.5	3		MH_Z

*Pulse test

Typical Characteristics

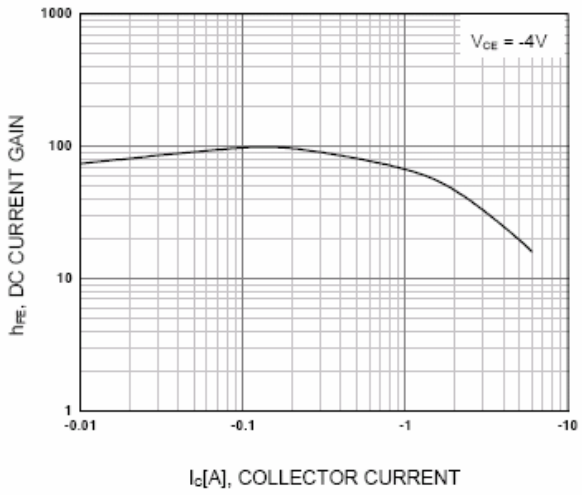


Figure 1. DC current Gain

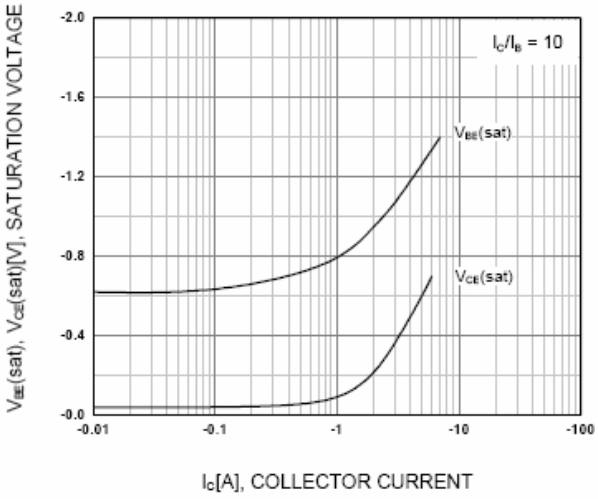


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

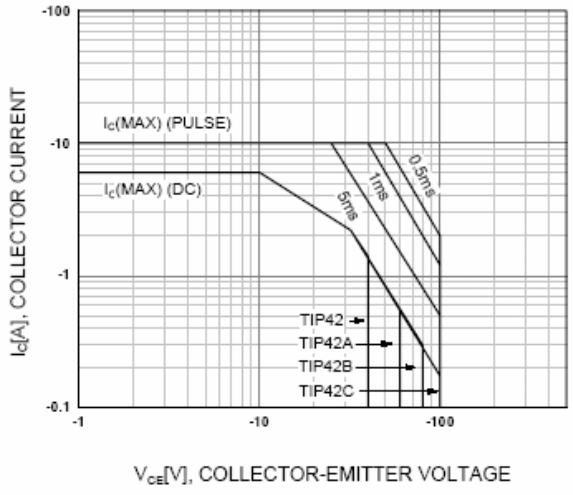


Figure 3. Safe Operating Area

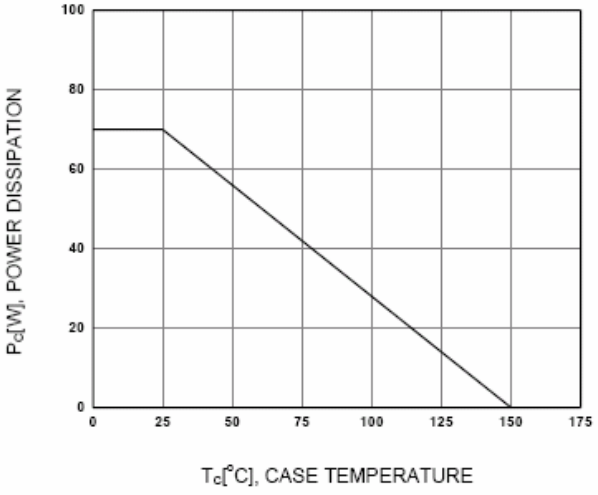


Figure 4. Power derating