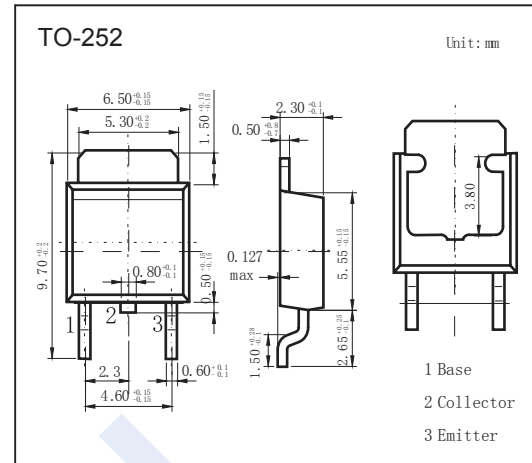


## PNP Transistors

### TIP42 Series (KIP42 Series)

#### ■ Features

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



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	TIP42	TIP42A	TIP42B	TIP42C	Unit
Collector - Base Voltage	$V_{CB0}$	-40	-60	-80	-100	V
Collector - Emitter Voltage	$V_{CE0}$	-40	-60	-80	-100	
Emitter - Base Voltage	$V_{EB0}$	-5				A
Collector Current - Continuous	$I_C$	-6				
Collector Current - Pulse	$I_{CP}$	-10				
Base Current	$I_B$	2				W
Collector Power Dissipation $T_c=25^\circ\text{C}$ $T_a=25^\circ\text{C}$	$P_C$	20				
Junction Temperature	$T_J$	150				$^\circ\text{C}$
Storage Temperature range	$T_{stg}$	-65 to 150				

## PNP Transistors

### TIP42 Series (KIP42 Series)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Collector- base breakdown voltage	V <sub>CB0</sub>	TIP42	-40			V	
		TIP42A	-60				
		TIP42B	-80				
		TIP42C	-100				
Collector-emitter sustaining voltage	V <sub>CEO(SUS)</sub>	TIP42	-40			V	
		TIP42A	-60				
		TIP42B	-80				
		TIP42C	-100				
Emitter - base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = -100 μA, I <sub>C</sub> = 0	-5				
Collector-base cut-off current	I <sub>CBO</sub>	TIP42	V <sub>CB</sub> = -40 V, I <sub>E</sub> = 0			-0.1	μA
		TIP42A	V <sub>CB</sub> = -60 V, I <sub>E</sub> = 0				
		TIP42B	V <sub>CB</sub> = -80 V, I <sub>E</sub> = 0				
		TIP42C	V <sub>CB</sub> = -100 V, I <sub>E</sub> = 0				
Collector- emittercut-off current	I <sub>CEO</sub>	TIP42/42A	V <sub>CE</sub> = -30 V, I <sub>E</sub> = 0			-0.7	mA
		TIP42B/42C	V <sub>CE</sub> = -60 V, I <sub>E</sub> = 0				
Collector- emittercut-off current	I <sub>CES</sub>	TIP42	V <sub>CE</sub> = -40 V, I <sub>E</sub> = 0			-400	μA
		TIP42A	V <sub>CE</sub> = -60 V, I <sub>E</sub> = 0				
		TIP42B	V <sub>CE</sub> = -80 V, I <sub>E</sub> = 0				
		TIP42C	V <sub>CE</sub> = -100 V, I <sub>E</sub> = 0				
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -5V, I <sub>C</sub> = 0			-1	mA	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 6 A, I <sub>B</sub> = -600mA			-1.5	V	
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	V <sub>CE</sub> = -4V, I <sub>C</sub> = -6 A			-2		
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> = -4V, I <sub>C</sub> = -300 mA	30				
	h <sub>FE(2)</sub>	V <sub>CE</sub> = -4V, I <sub>C</sub> = -3 A	15		75		
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -500mA	3			MHz	

## PNP Transistors TIP42 Series (KIP42 Series)

■ Typical Characteristics

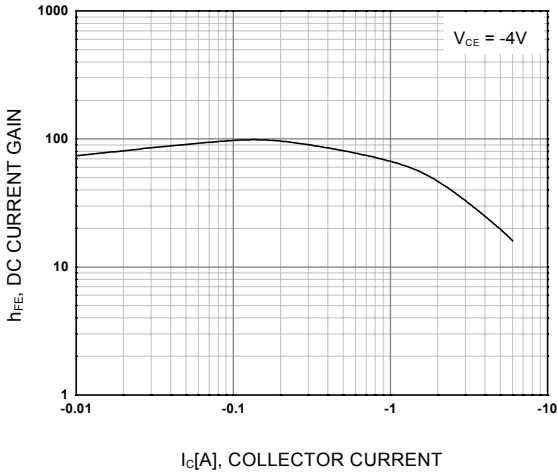


Figure 1. DC current Gain

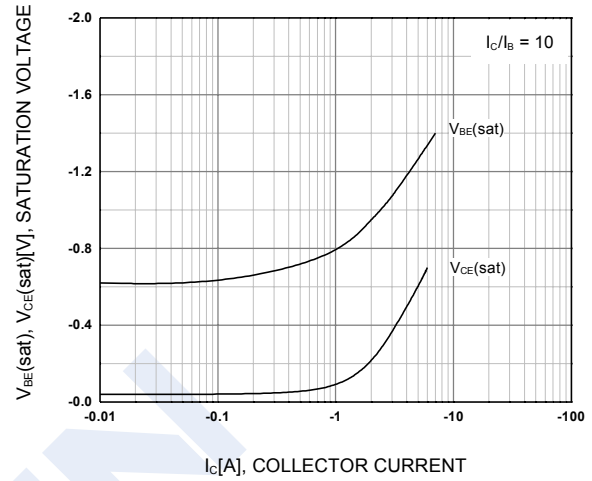


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

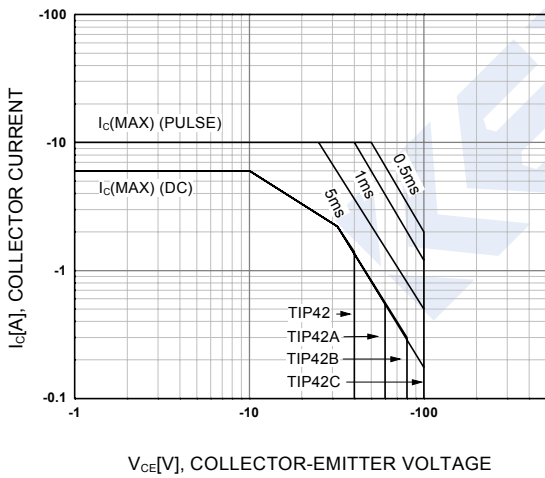


Figure 3. Safe Operating Area

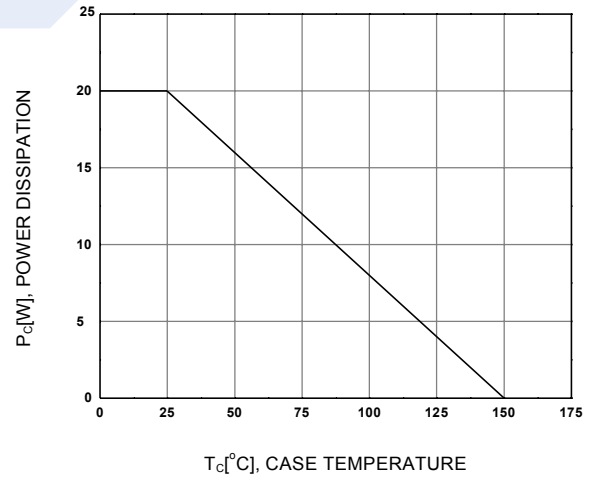


Figure 4. Power derating