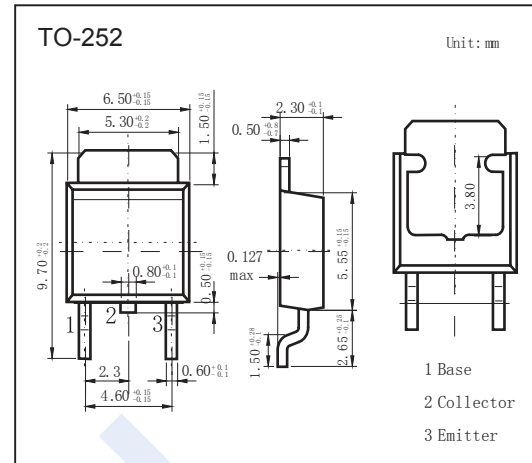


PNP Transistors

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 _{CB0}	TIP42	-40			V	
		TIP42A	-60				
		TIP42B	-80				
		TIP42C	-100				
Collector-emitter sustaining voltage	V _{CEO(SUS)}	TIP42	-40			V	
		TIP42A	-60				
		TIP42B	-80				
		TIP42C	-100				
Emitter - base breakdown voltage	V _{EBO}	I _E = -100 μA, I _C = 0	-5				
Collector-base cut-off current	I _{CBO}	TIP42	V _{CB} = -40 V, I _E = 0			-0.1	uA
		TIP42A	V _{CB} = -60 V, I _E = 0				
		TIP42B	V _{CB} = -80 V, I _E = 0				
		TIP42C	V _{CB} = -100 V, I _E = 0				
Collector- emittercut-off current	I _{CEO}	TIP42/42A	V _{CE} = -30 V, I _E = 0			-0.7	mA
		TIP42B/42C	V _{CE} = -60 V, I _E = 0				
Collector- emittercut-off current	I _{CES}	TIP42	V _{CE} = -40 V, I _E = 0			-400	uA
		TIP42A	V _{CE} = -60 V, I _E = 0				
		TIP42B	V _{CE} = -80 V, I _E = 0				
		TIP42C	V _{CE} = -100 V, I _E = 0				
Emitter cut-off current	I _{EBO}	V _{EB} = -5V, I _C = 0			-1	mA	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 6 A, I _B = -600mA			-1.5	V	
Base - emitter saturation voltage	V _{BE(sat)}	V _{CE} = -4V, I _C = -6 A			-2		
DC current gain	h _{FE(1)}	V _{CE} = -4V, I _C = -300 mA	30				
	h _{FE(2)}	V _{CE} = -4V, I _C = -3 A	15		75		
Transition frequency	f _T	V _{CE} = -10V, I _C = -500mA	3			MHz	

PNP Transistors TIP42 Series (KIP42 Series)

■ Typical Characteristics

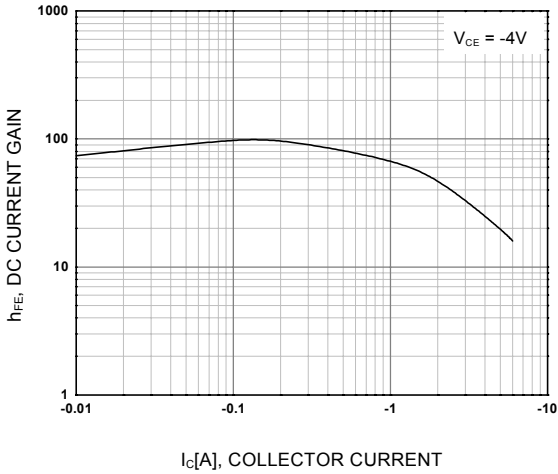


Figure 1. DC current Gain

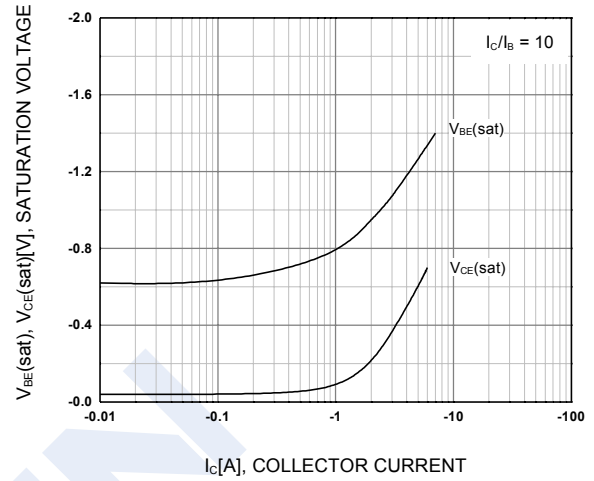


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

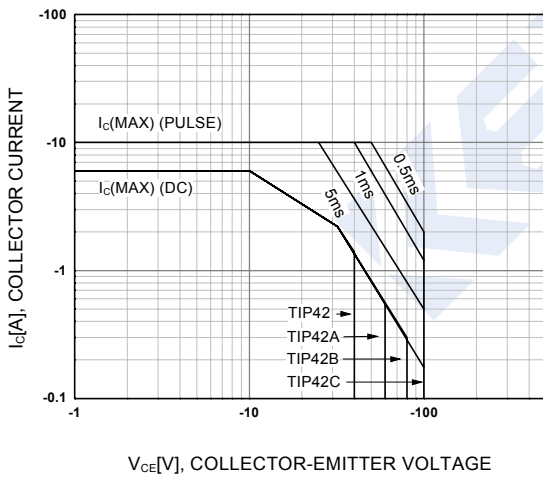


Figure 3. Safe Operating Area

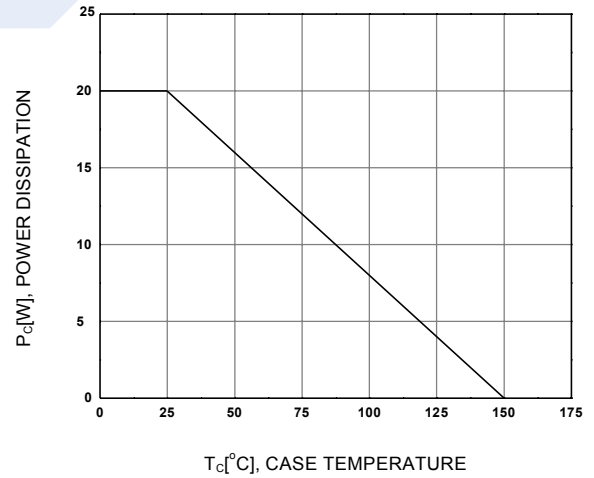


Figure 4. Power derating