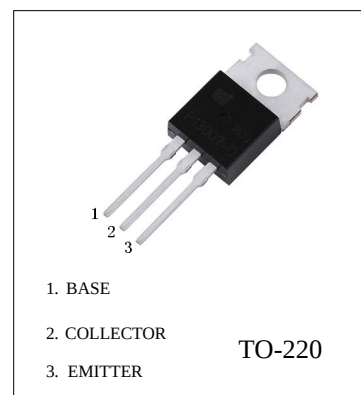


FEATURES

Medium Power Linear Switching Applications

TIP42/A/B/C (PNP)



MAXIMUM RATINGS (TA=25℃ unless otherwise noted)

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

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage TIP42 TIP42A TIP42B TIP42C	V_{CBO}	$I_C = -1mA, I_E = 0$	-40 -60 -80 -100		V
Collector-emitter breakdown voltage TIP42 TIP42A TIP42B TIP42C	V_{CEO}	$I_C = -30mA, I_B = 0$	-40 -60 -80 -100		V
Emitter-base breakdown voltage	V_{EBO}	$I_E = -1mA, I_C = 0$	-5		V
Collector cut-off current TIP42 TIP42A TIP42B TIP42C	I_{CBO}	$V_{CB} = -40V, I_E = 0$ $V_{CB} = -60V, I_E = 0$ $V_{CB} = -80V, I_E = 0$ $V_{CB} = -100V, I_E = 0$		-0.4	mA
Collector cut-off current TIP42/42A /42B /42C	I_{CEO}	$V_{CE} = -30V, I_B = 0$ $V_{CE} = -60V, I_B = 0$		-0.7	mA
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		
	$h_{FE(2)}$	$V_{CE} = -4V, I_C = -3A$	15	75	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -6A, I_B = -0.6A$		-1.5	V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE} = -4V, I_C = -6A$		-2	V
Transition frequency	f_T	$V_{CE} = -10V, I_C = -0.5A$ $f = 1MHz$	3		MHZ

TIP42/A/B/C Typical Characteristics

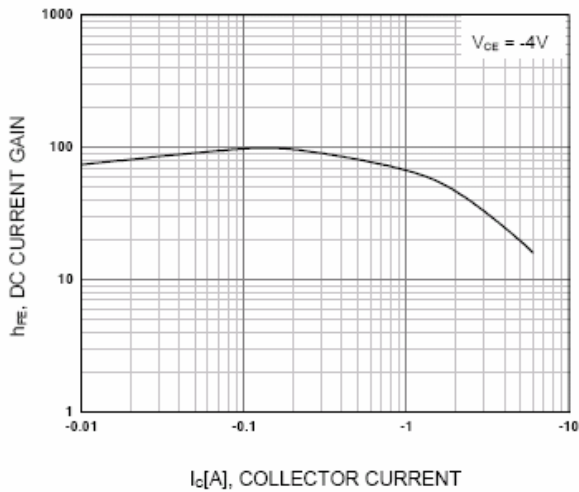


Figure 1. DC current Gain

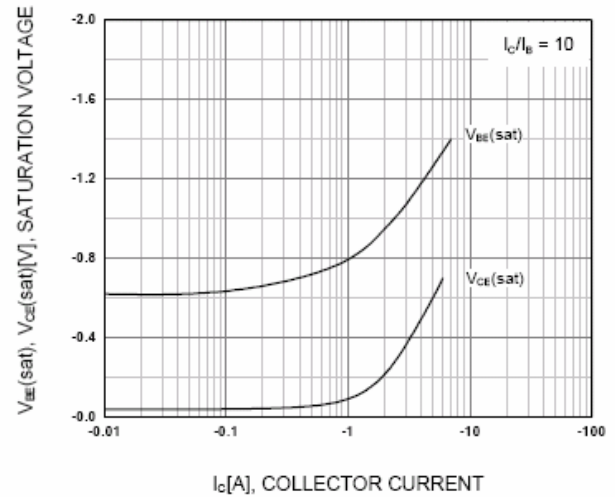


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

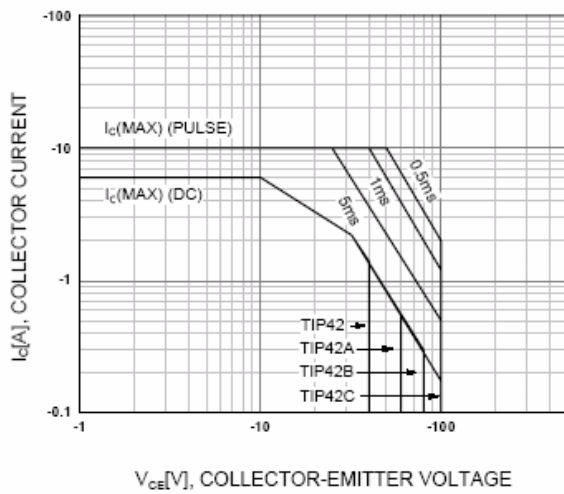


Figure 3. Safe Operating Area

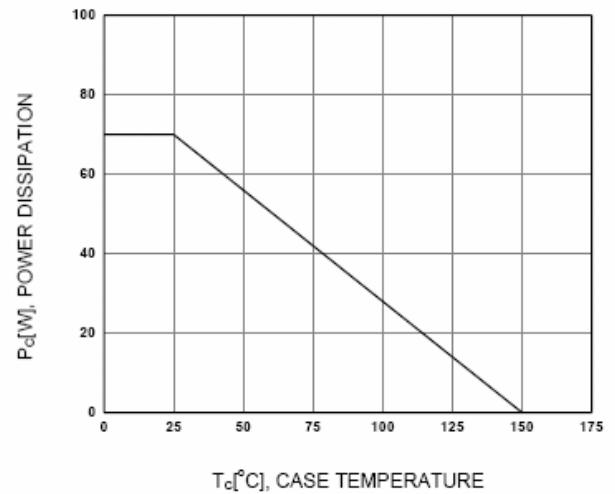


Figure 4. Power derating