Silicon PNP Power Transistors TIP42/42A/42B/42C

DESCRIPTION

・With TO-220C package
・Complement to type TIP41/41A/41B/41C

APPLICATIONS

・For medium power linear switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector;connected to mounting base
3	Base

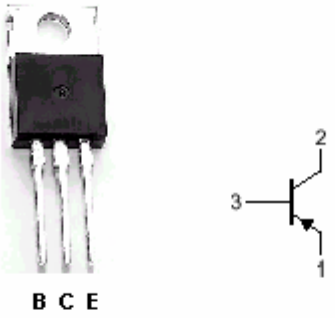

Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Tc=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	TIP42	Open emitter	-40	V
		TIP42A		-60	
		TIP42B		-80	
		TIP42C		-100	
V_{CEO}	Collector-emitter voltage	TIP42	Open base	-40	V
		TIP42A		-60	
		TIP42B		-80	
		TIP42C		-100	
V_{EBO}	Emitter-base voltage		Open collector	-5	V
I_C	Collector current (DC)			-6	A
I_{CM}	Collector current-Pulse			-10	A
I_B	Base current			-2	A
P_C	Collector power dissipation		T_C=25℃	65	W
			T_a=25℃	2	
T_j	Junction temperature			150	℃
T_{stg}	Storage temperature			-65~150	℃

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	TIP42	I_C=30mA; I_B=0	-40			V
		TIP42A		-60			
		TIP42B		-80			
		TIP42C		-100			
V_{CEsat}	Collector-emitter saturation voltage		I_C=-6A I_B=-0.6A			-1.5	V
V_{BE}	Base-emitter on voltage		I_C=-6A ; V_{CE}=-4V			-2.0	V
I_{CES}	Collector cut-off current	TIP42	V_{CE}=-40V; V_{EB}=0			-0.4	mA
		TIP42A	V_{CE}=-60V; V_{EB}=0				
		TIP42B	V_{CE}=-80V; V_{EB}=0				
		TIP42C	V_{CE}=-100V; V_{EB}=0				
I_{CEO}	Collector cut-off current	TIP41/41A	V_{CE}=-30V; I_B=0			-0.7	mA
		TIP41B/41C	V_{CE}=-60V; I_B=0				
I_{EBO}	Emitter cut-off current		V_{EB}=-5V; I_C=0			-1.0	mA
h_{FE-1}	DC current gain		I_C=-0.3A ; V_{CE}=-4V	30			
h_{FE-2}	DC current gain		I_C=-3A ; V_{CE}=-4V	15		75	
f_T	Transiton frequency		I_C=-0.5A ; V_{CE}=-10V	3			MHz

PACKAGE OUTLINE

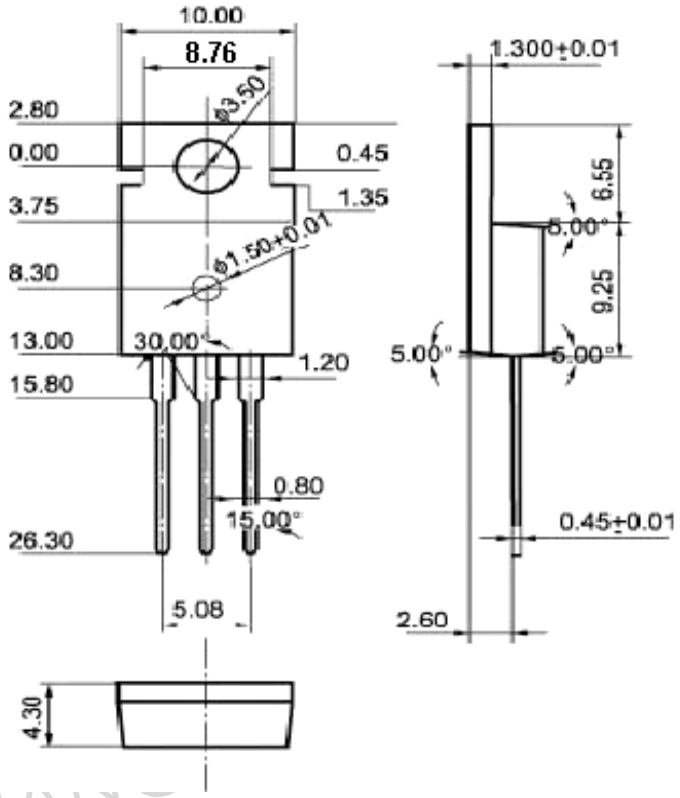

Fig.2 Outline dimensions

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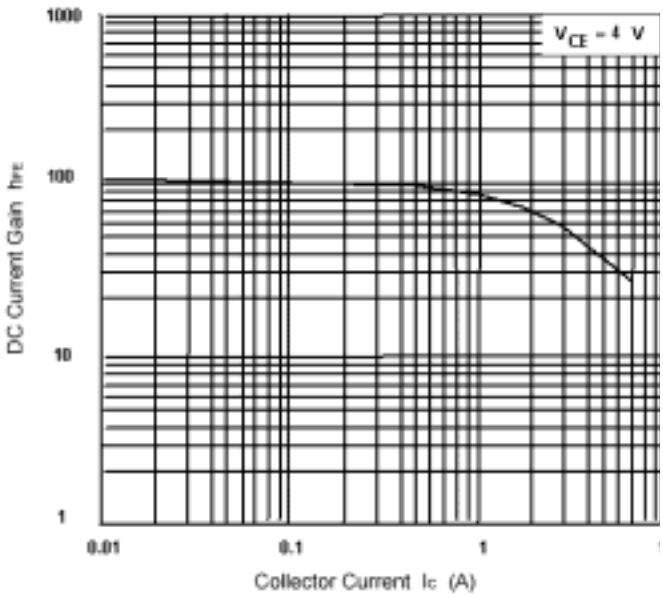

Fig.3 DC current Gain

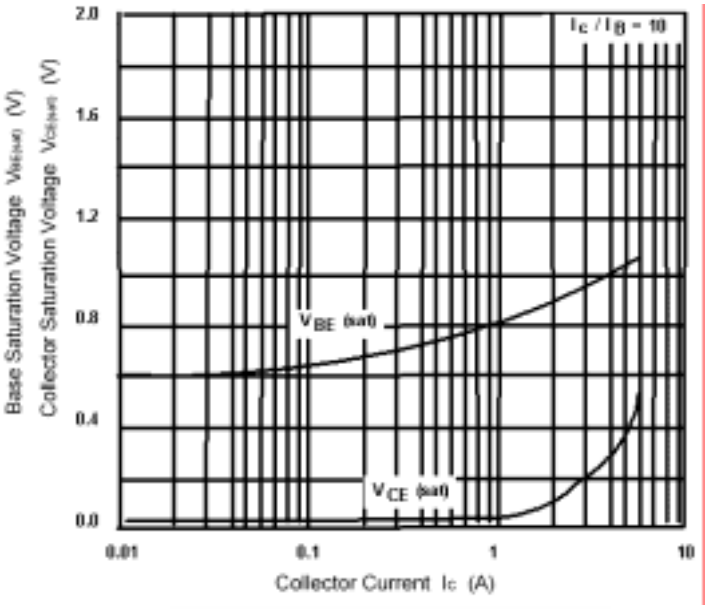

Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

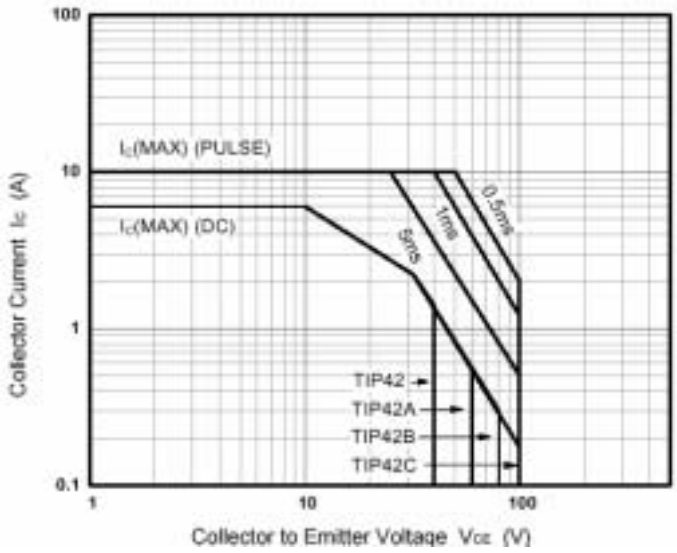

Fig.5 Safe Operating Area