



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220 Plastic-Encapsulate Transistors

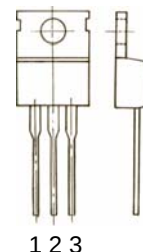
TIP41/41A/41B/41C TRANSISTOR (NPN)

FEATURES

Medium Power Linear Switching Applications

TO-220

1. BASE
2. COLLECTOR
3. EMITTER



MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	TIP41	TIP41A	TIP41B	TIP41C	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				$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	$-55\text{to}+150$				$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage TIP41 TIP41A TIP41B TIP41C	$V(BR)_{CBO}$	$I_C=1\text{mA}$, $I_E=0$	40 60 80 100		V
Collector-emitter breakdown voltage TIP41 TIP41A TIP41B TIP41C	$V(BR)_{CEO}$	$I_C=30\text{mA}$, $I_B=0$	40 60 80 100		V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E=1\text{mA}$, $I_C=0$	5		V
Collector cut-off current TIP41 TIP41A TIP41B TIP41C	I_{CBO}	$V_{CB}=40\text{V}$, $I_E=0$ $V_{CB}=60\text{V}$, $I_E=0$ $V_{CB}=80\text{V}$, $I_E=0$ $V_{CB}=100\text{V}$, $I_E=0$		0.4	mA
Collector cut-off current TIP41/41A TIP41B/41C	I_{CEO}	$V_{CE}=30\text{V}$, $I_B=0$ $V_{CE}=60\text{V}$, $I_B=0$		0.7	mA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$		1	mA
DC current gain	$h_{FE(1)}$	$V_{CE}=4\text{V}$, $I_C=0.3\text{A}$	30		
	$h_{FE(2)}$	$V_{CE}=4\text{V}$, $I_C=3\text{A}$	15	75	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=6\text{A}$, $I_B=0.6\text{A}$		1.5	V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE}=4\text{V}$, $I_C=6\text{A}$		2	V
Transition frequency	f_T	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$ $f=1\text{MHz}$	3		MHz

Typical Characteristics

TIP41/41A/41B/41C

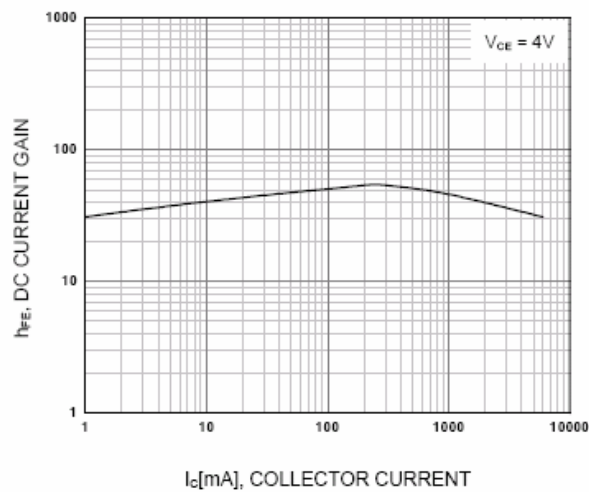


Figure 1. DC current Gain

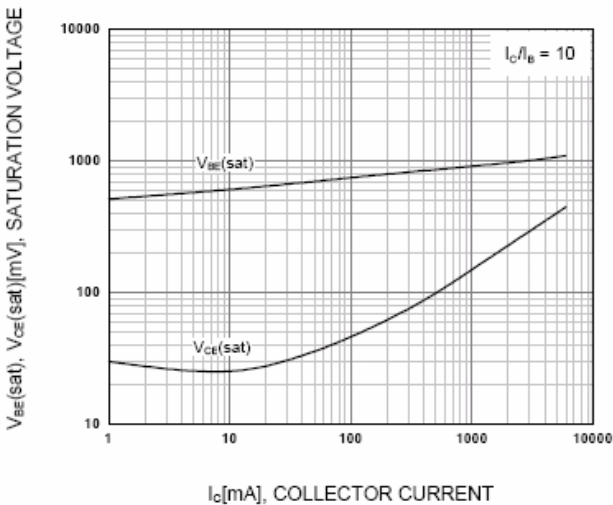


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

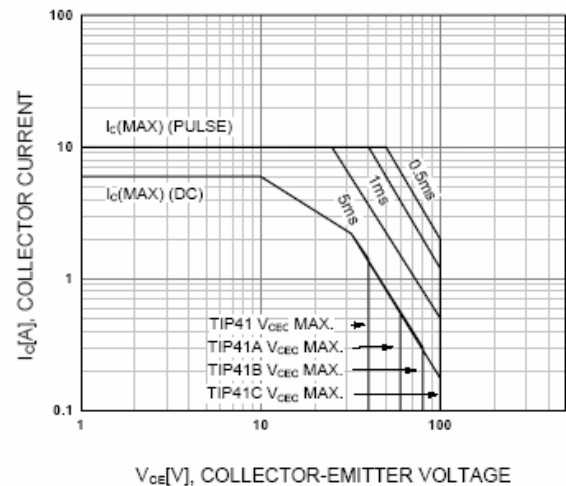


Figure 3. Safe Operating Area

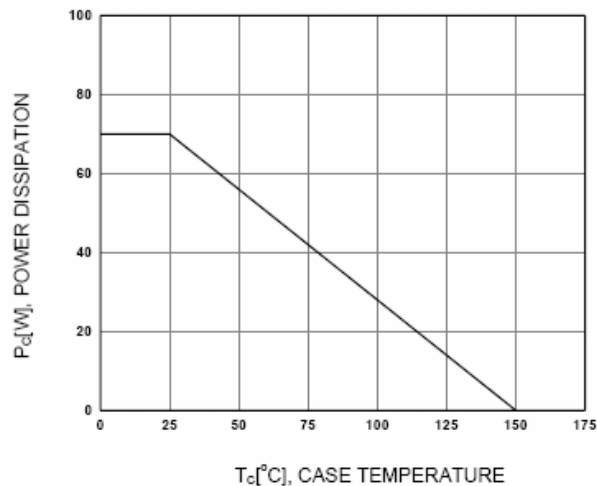


Figure 4. Power Derating