

**TIP41C**

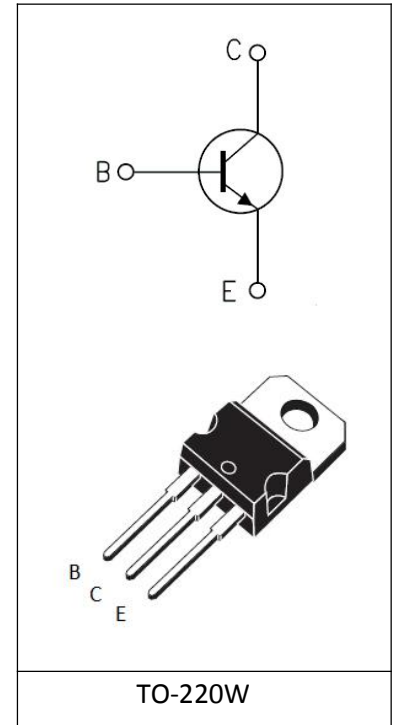
TIP41C, the base island technology NPN power transistor, make this device suitable for audio, power linear and switching applications. The complementary PNP type is TIP42C

**Features**

- Complementary PNP-NPN devices
- $h_{FE}$  grouping
- $h_{FE}$  improved linearity
- RoHS product

**Applications**

- General purpose circuits
- Audio amplifier
- Power linear and switching



**Absolute Maximum Ratings ( $T_a=25^{\circ}\text{C}$  unless otherwise noted):**

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	100	V
Collector-Emitter Voltage	$V_{CE0}$	100	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current(DC)	$I_C$	6	A
Collector Peak Current( $t_p < 5\text{ms}$ )	$I_{CM}$	10	A
Base Current(DC)	$I_B$	2	A
Base Peak Current( $t_p < 5\text{ms}$ )	$I_{BM}$	4	A
Collector Power Dissipation	$P_C$	65	W
Junction Temperature	$T_j$	150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-65~150	$^{\circ}\text{C}$

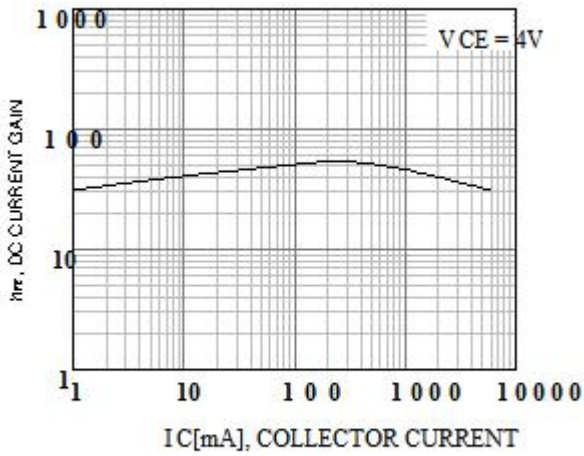
**Electrical Characteristics ( $T_a=25^{\circ}\text{C}$  unless otherwise noted):**

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Cut-off Current	$I_{CBO}$	$V_{CB}=100V, I_E=0$			0.4	mA
Collector-Emitter Cut-off Current	$I_{CEO}$	$V_{CE}=100V, I_B=0$			0.4	mA
Emitter-Base Cut-off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			1.0	mA
Collector-Base Breakdown Voltage	$V_{CBO}$	$I_C=0.1mA$	100			V
Collector-Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1mA$	100			V
Emitter-Base Breakdown Voltage	$V_{EBO}$	$I_E=100uA$	5			V
DC Current Gain	$h_{FE1}$	$V_{CE}=5V, I_C=1A$	40			
	$h_{FE2}$	$V_{CE}=5V, I_C=3A$	15		75	
Collector-Emitter Saturation Voltage	$V_{CEsat}$	$I_C=6A, I_B=0.6A$			1.5	V
Transition Frequency	$f_T$	$V_{CE}=10V, I_{CE}=0.5A$	3			Mhz

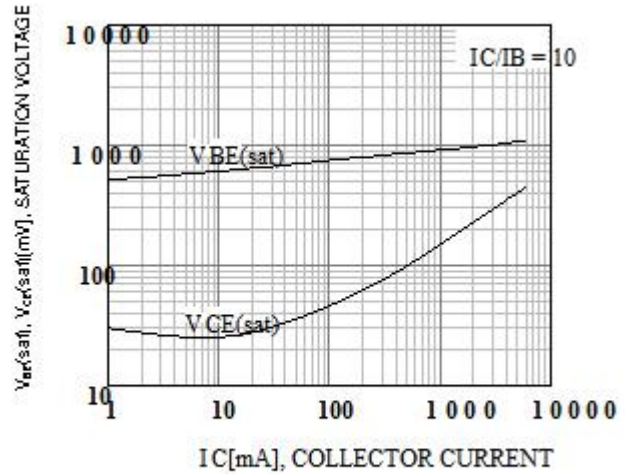
### Thermal Characteristics

Symbol	Parameter	Typ.	Units
$R_{\theta JC}$	Junction-to-Case	2.0	$^{\circ}C/W$

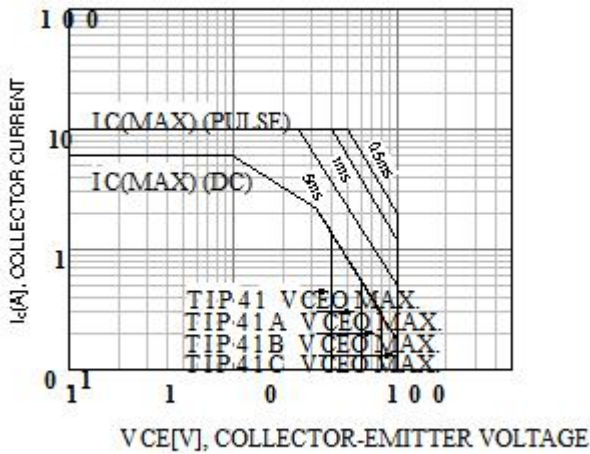
**Typical Characteristics**



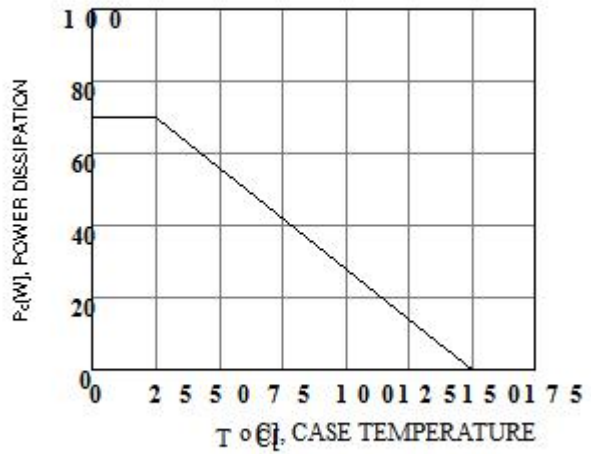
**Figure 1. DC current Gain**



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



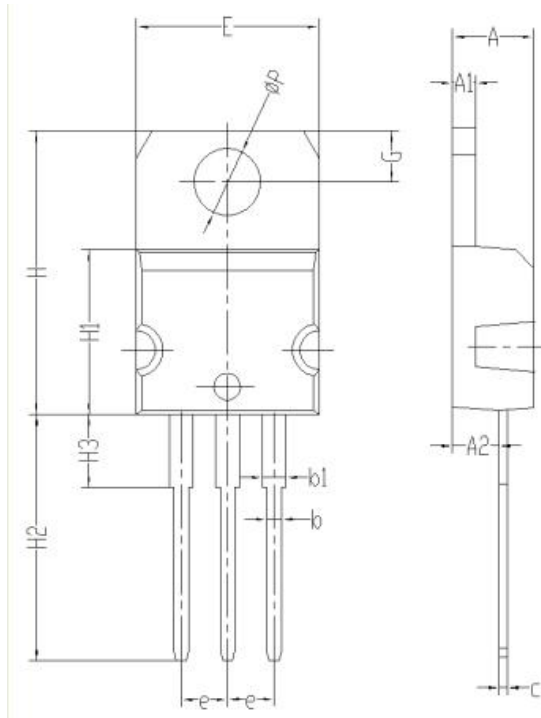
**Figure 3. Safe Operating Area**



**Figure 4. Power Derating**

**Package Information**

**TO-220M PACKAGE**



Symbol	Dimensions (millimeters)	
	Min.	Max.
A	4.05	4.45
A1	1.05	1.45
A2	2.35	2.75
b	0.60	1.00
b1	1.12	1.52
c	0.25	0.65
e	2.34	2.74
E	9.95	10.4
H	15.3	15.7
H1	8.80	9.20
H2	13.0	14.0
H3	3.80	4.20
G	2.60	3.00
$\Phi P$	3.60	4.00