

# EVVOSEMI<sup>®</sup>

THINK CHANGE DO



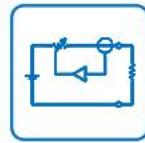
ESD



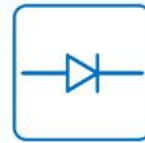
TVS



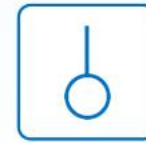
MOS



LDO



Diode



Sensor



DC-DC

## Product Specification

▶ Domestic	Part Number	TIP31C
▶ Overseas	Part Number	TIP31C
▶ Equivalent	Part Number	TIP31C

EV is the abbreviation of name EVVO

## Silicon NPN Epitaxial Transistor

## TIP31C

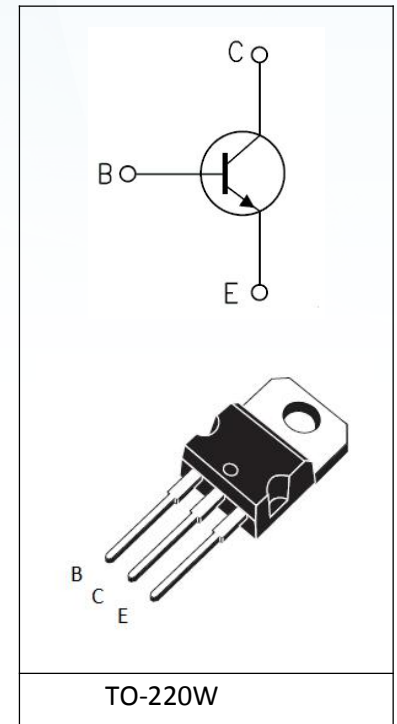
TIP31C, the base island technology NPN power transistor, make this device suitable for audio, power linear and switching applications. The complementary PNP type is TIP32C

### 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)	$I_C$	3	A
Collector Peak Current( $t_p < 5\text{ms}$ )	$I_{CM}$	5	A
Base Current(DC)	$I_B$	1	A
Base Peak Current( $t_p < 5\text{ms}$ )	$I_{BM}$	2	A
Collector Power Dissipation	$P_C$	40	W
Junction Temperature	$T_j$	150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-65~150	$^{\circ}\text{C}$

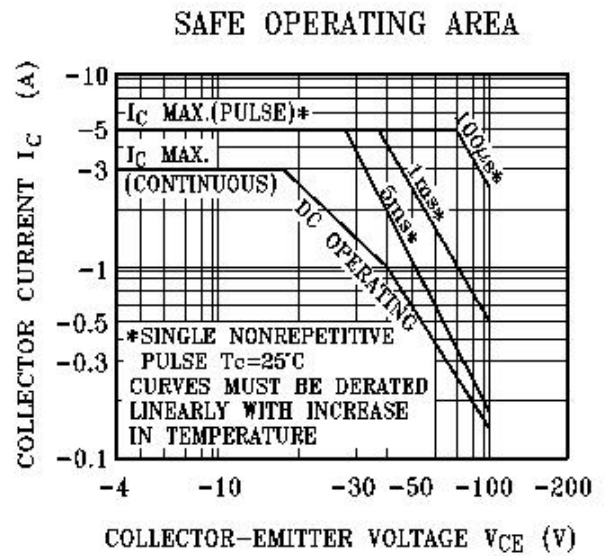
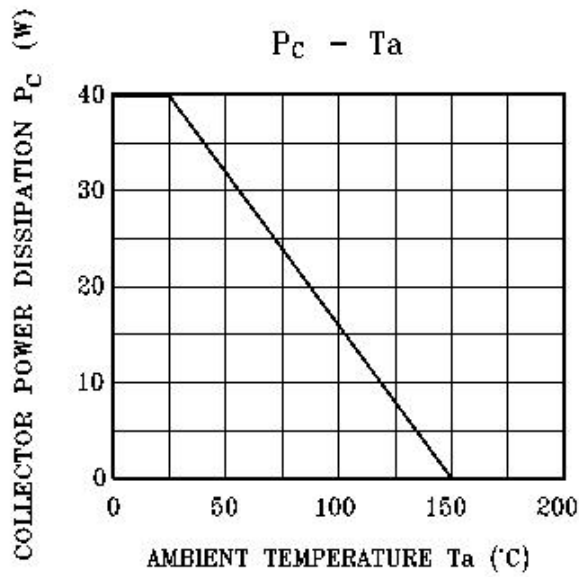
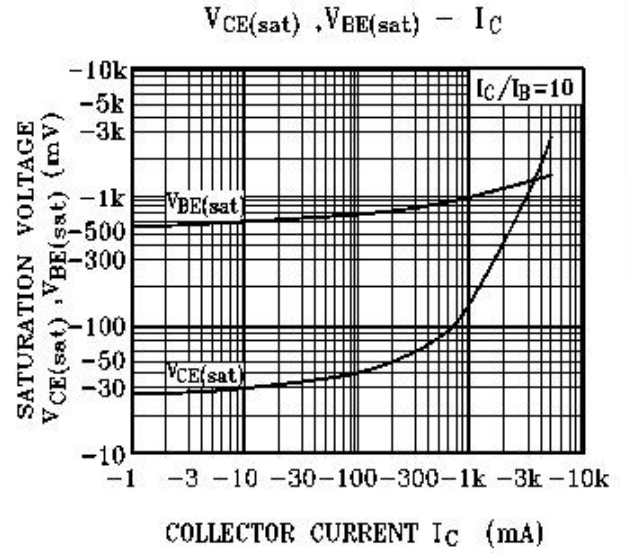
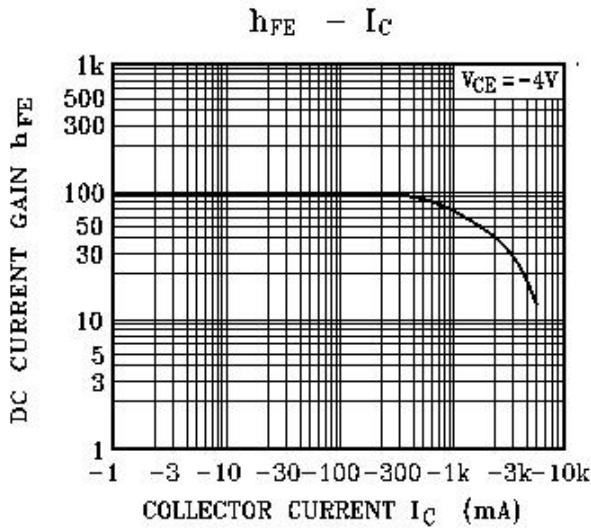
### Electrical Characteristics ( $T_a=25^{\circ}\text{C}$ unless otherwise noted):

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Cut-off Current	$I_{CBO}$	$V_{CB}=100V, I_E=0$			0.2	mA
Collector-Emitter Cut-off Current	$I_{CEO}$	$V_{CE}=100V, I_B=0$			0.2	mA
Emitter-Base Cut-off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			1	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	$h_{FE1}$	$V_{CE}=5V, I_C=1A$	25			
	$h_{FE2}$	$V_{CE}=5V, I_C=3A$	10		50	
Collector-Emitter Saturation Voltage	$V_{CEsat}$	$I_C=6A, I_B=0.6A$			1.2	V
Transition Frequency	$f_T$	$V_{CE}=10V, I_{CE}=0.5A$	3			Mhz

### Thermal Characteristics

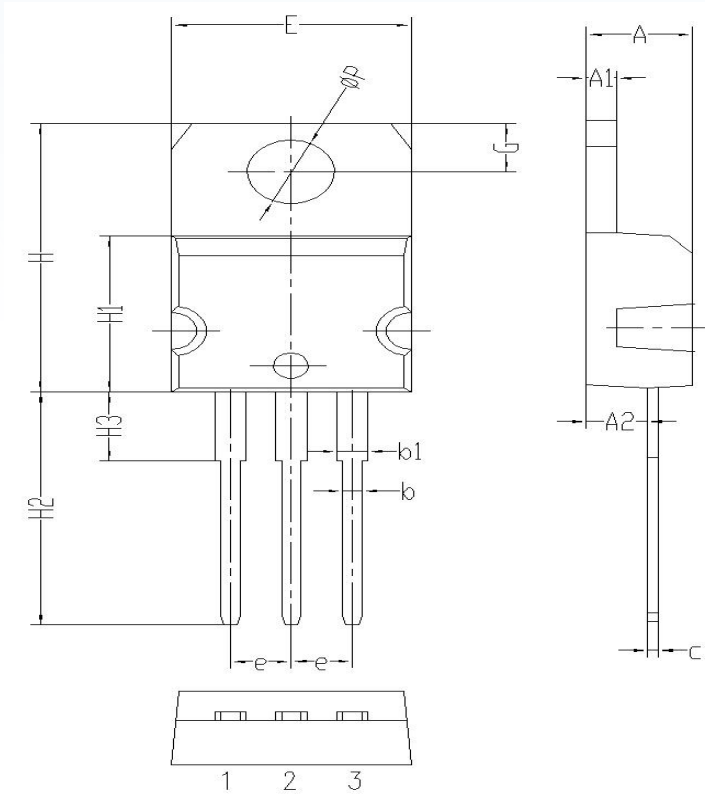
Symbol	Parameter	Typ.	Units
$R_{\theta JC}$	Junction-to-Case	3.0	$^{\circ}C/W$

Typical Characteristics



**Package Information**

**TO-220W PACKAGE**



Symbol	单位 mm		
	Min	Nom	Max
A	4.05	4.25	4.45
A1	1.2	1.3	1.4
A2	2.35	2.45	2.55
b	0.60	0.8	1.00
b1	1.12	1.32	1.52
c	0.25	0.45	0.65
e	2.34	2.54	2.74
E	9.8	10.0	10.2
H	15.1	15.3	15.5
H1	8.60	8.8	9.00
H2	13.0	13.5	14.0
H3	3.80	4.0	4.20
G	2.60	2.8	3.00
ΦP	3.60	3.8	4.00



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