

## 2SC4647

### Silicon NPN Triple Diffused High Voltage Amplifier

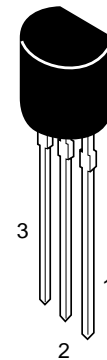
#### Features

- High break down voltage  
 $V_{(BR)CEO} = 300 \text{ V Min.}$

**Table 1 Absolute Maximum Ratings**  
( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	300	V
Collector to emitter voltage	$V_{CEO}$	300	V
Emitter to base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	100	mA
Collector power dissipation	$P_C$	400	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

TO-92 (1)

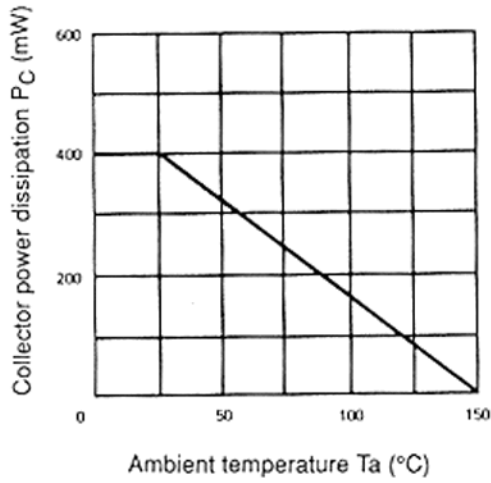


1. Emitter
2. Collector
3. Base

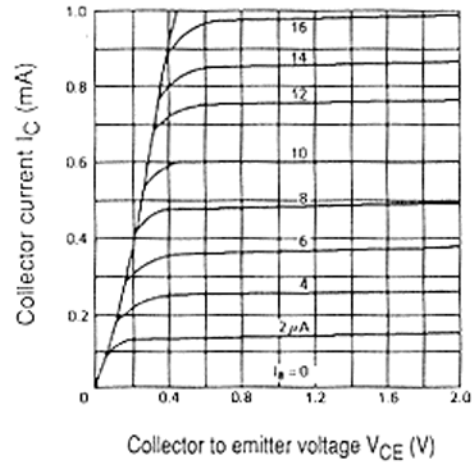
**Table 2 Electrical Characteristics** ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	300	—	—	V	$I_C = 10 \mu\text{A}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	300	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10 \mu\text{A}, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	1.0	$\mu\text{A}$	$V_{CB} = 250 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	$h_{FE}$	30	—	200	—	$V_{CE} = 20 \text{ V}, I_C = 20 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C = 20 \text{ mA}, I_B = 2 \text{ mA}$
Gain bandwidth product	$f_T$	50	—	—	MHz	$V_{CE} = 20 \text{ V}, I_C = 20 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	—	4.0	pF	$V_{CE} = 20 \text{ V}, I_E = 0,$ $f = 1 \text{ MHz}$

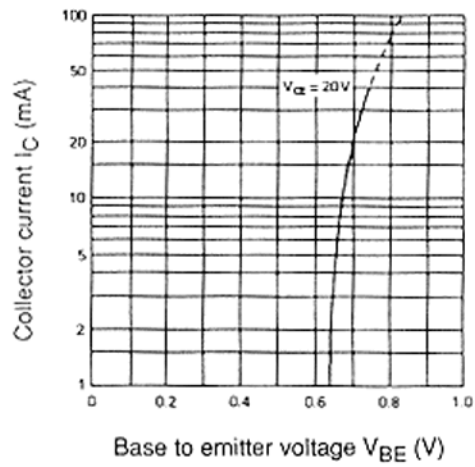
Maximum collector dissipation curve



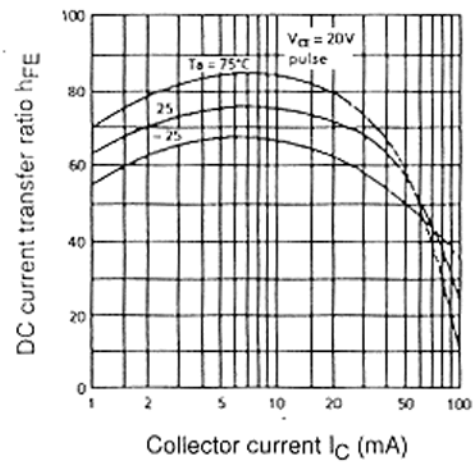
Typical output characteristics



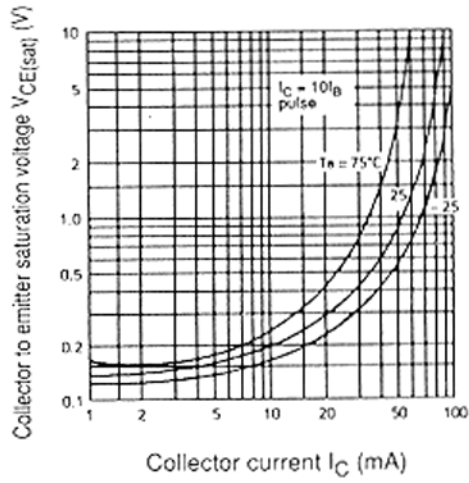
Typical transfer characteristics



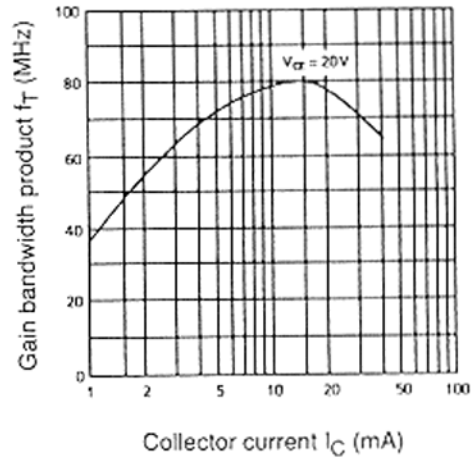
DC current transfer ratio vs. collector current



Collector to emitter saturation  
vs. collector current



Gain bandwidth product  
vs. collector current



Collector output capacitance  
vs. collector to base voltage

