

# Silicon PNP Power Transistor



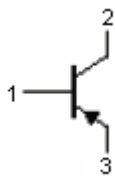
## Feature:

- DC current gain  $h_{FE} = 40$  (Minimum) at  $I_C = 1\text{ A}$

## Applications:

Designed for use in general purpose power amplifier and switching applications

Fig. 1 Simplified Outline (TO-3PN) and Symbol



## Pinning

Pin	Description
1	Base
2	Collector; connected to mounting base
3	Emitter

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

Symbol	Parameter	Conditions	Value	Unit
$V_{CBO}$	Collector - base voltage	Open emitter	-100	V
$V_{CEO}$	Collector - emitter voltage	Open base	-100	V
$V_{EBO}$	Emitter - base voltage	Open collector	-5	V
$I_C$	Collector current	-	-10	A
$I_{CM}$	Collector current - peak	-	-15	A
$I_B$	Base current	-	-3	A
$P_C$	Collector power dissipation	$T_C = 25^\circ\text{C}$	80	W
$T_j$	Junction temperature	-	150	$^\circ\text{C}$
$T_{stg}$	Storage temperature	-	-65 to 150	$^\circ\text{C}$

## Thermal Characteristics

Symbol	Parameter	Maximum	Unit
$R_{th\ j-c}$	Thermal resistance junction to case	1.56	$^\circ\text{C/W}$

## Characteristics ( $T_j = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
$V_{CEO\ (SUS)}$	Collector - emitter sustaining voltage	$I_C = -30\text{ mA}; I_B = 0$	-100	-	-	V
$V_{CEsat-1}$	Collector - emitter saturation voltage	$I_C = -3\text{ A}; I_B = -0.3\text{ A}$	-	-	-1	V
$V_{CEsat-2}$	Collector - emitter saturation voltage	$I_C = -10\text{ A}; I_B = -2.5\text{ A}$	-	-	-4	V



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## Characteristics (T<sub>j</sub> = 25°C Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
V <sub>BE-1</sub>	Base - emitter on voltage	I <sub>C</sub> = -3 A; V <sub>CE</sub> = -4 V	-	-	-1.6	V
V <sub>BE-2</sub>	Base - emitter on voltage	I <sub>C</sub> = -10 A; V <sub>CE</sub> = -4 V	-	-	-3	V
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> = -60 V; I <sub>B</sub> = 0	-	-	-0.7	mA
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> = -100 V; V <sub>EB</sub> = 0	-	-	-0.4	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> = -5 V; I <sub>C</sub> = 0	-	-	-1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> = -1 A; V <sub>CE</sub> = -4 V	40	-	-	-
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> = -3 A; V <sub>CE</sub> = -4 V	20	-	100	-
f <sub>T</sub>	Transition frequency	I <sub>C</sub> = -0.5 A; V <sub>CE</sub> = -10 V; f = 1 MHz	3	-	-	MHz

## Package Outline

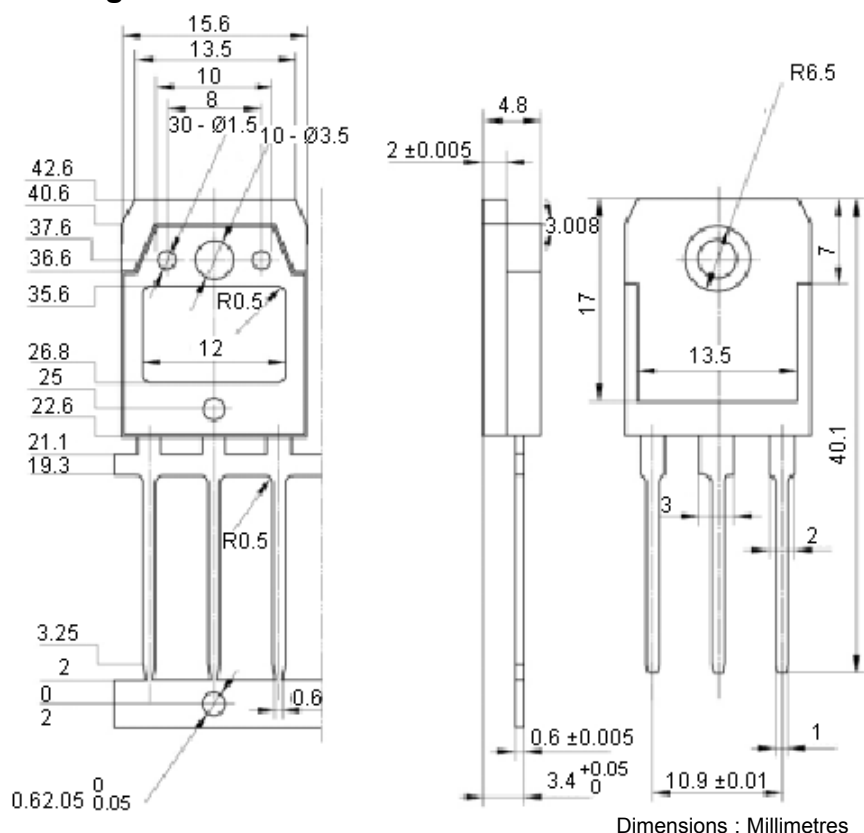


Fig. 2 Outline Dimensions (Unindicated Tolerance : ±0.1 mm)

## Part Number Table

Description	Part Number
Silicon PNP Power Transistor	TIP34C

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