

## Silicon NPN Power Transistors

## TIP35/35A/35B/35C

## DESCRIPTION

- With TO-3PN package
- Complement to type TIP36/36A/36B/36C
- DC current gain  $h_{FE}=25(\text{Min})@I_C=1.5\text{A}$

## APPLICATIONS

- Designed for use in general purpose power amplifier and switching applications.

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

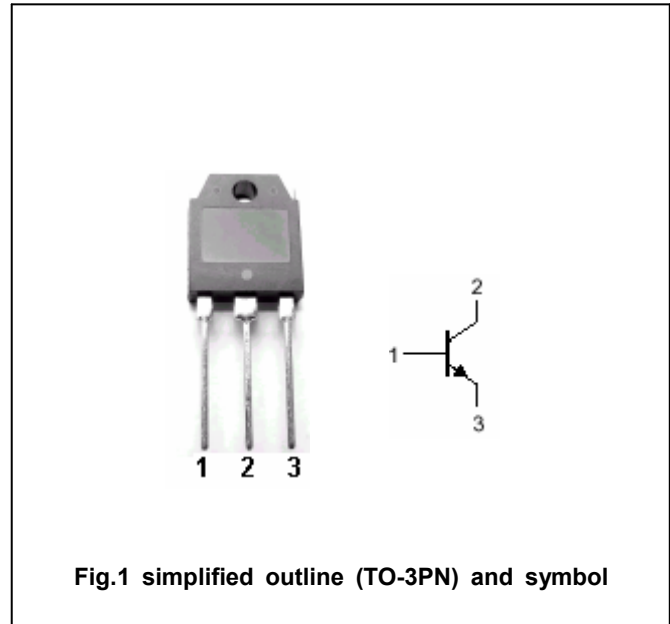


Fig.1 simplified outline (TO-3PN) and symbol

ABSOLUTE MAXIMUM RATINGS ( $T_C=\square$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	TIP35	40	V
		TIP35A	60	
		TIP35B	80	
		TIP35C	100	
$V_{CEO}$	Collector-emitter voltage	TIP35	40	V
		TIP35A	60	
		TIP35B	80	
		TIP35C	100	
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		25	A
$I_{CM}$	Collector current-peak		40	A
$I_B$	Base current		5	A
$P_C$	Collector power dissipation	$T_C=25\square$	125	W
$T_j$	Junction temperature		150	$\square$
$T_{stg}$	Storage temperature		-65~150	$\square$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.0	$\square/W$

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## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V <sub>(SUS)CEO</sub>	Collector-emitter sustaining voltage	TIP35	40			V	
		TIP35A	60				
		TIP35B	80				
		TIP35C	100				
V <sub>CE(sat)-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =15A ; I <sub>B</sub> =1.5A			1.8	V	
V <sub>CE(sat)-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =25A ; I <sub>B</sub> =5A			4.0	V	
V <sub>BE-1</sub>	Base-emitter on voltage	I <sub>C</sub> =15A ; V <sub>CE</sub> =4V			2.0	V	
V <sub>BE-2</sub>	Base-emitter on voltage	I <sub>C</sub> =25A ; V <sub>CE</sub> =4V			4.0	V	
I <sub>CEO</sub>	Collector cut-off current	TIP35/35A	V <sub>CE</sub> =30V ; I <sub>B</sub> =0			1.0	mA
		TIP35B/35C	V <sub>CE</sub> =60V ; I <sub>B</sub> =0				
I <sub>CES</sub>	Collector cut-off current	TIP35	V <sub>CE</sub> =40V ; V <sub>EB</sub> =0			0.7	mA
		TIP35A	V <sub>CE</sub> =60V ; V <sub>EB</sub> =0				
		TIP35B	V <sub>CE</sub> =80V ; V <sub>EB</sub> =0				
		TIP35C	V <sub>CE</sub> =100V ; V <sub>EB</sub> =0				
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V ; I <sub>C</sub> =0			1.0	mA	
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1.5A ; V <sub>CE</sub> =4V	25				
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =15A ; V <sub>CE</sub> =4V	15		75		
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V	3			MHz	

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PACKAGE OUTLINE

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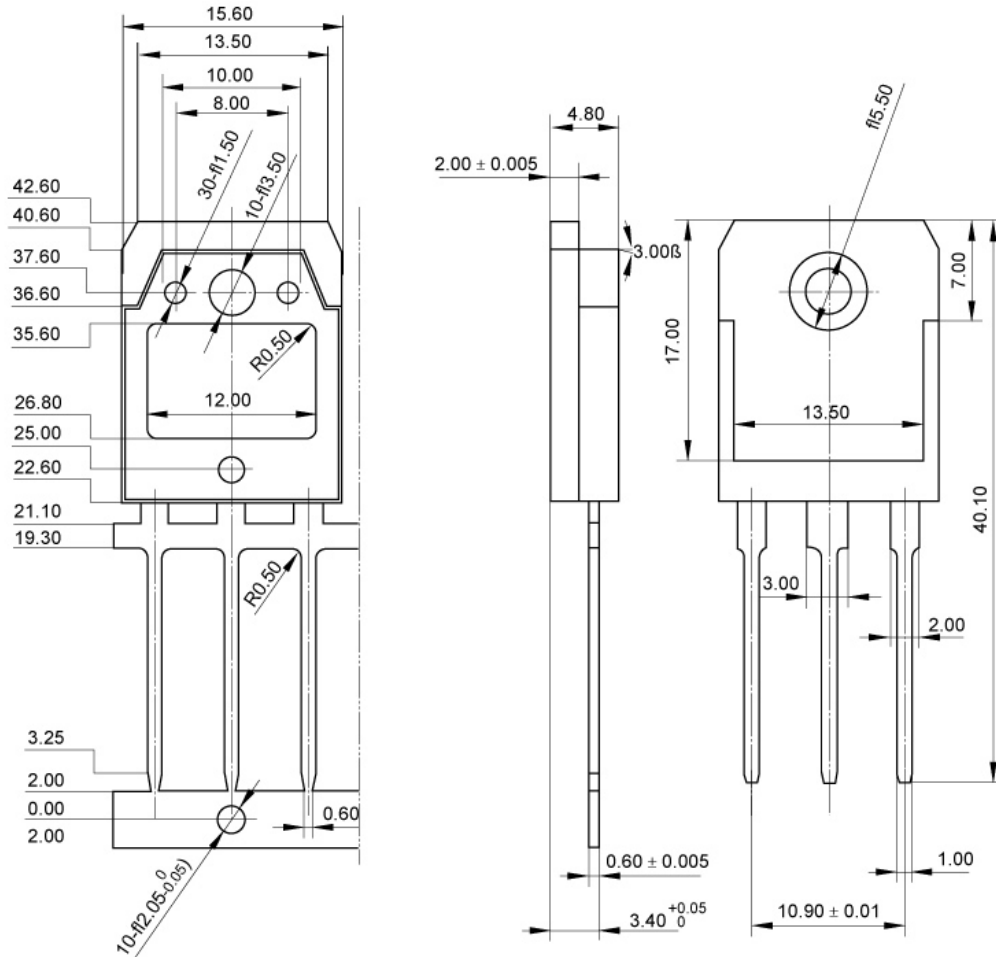


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)

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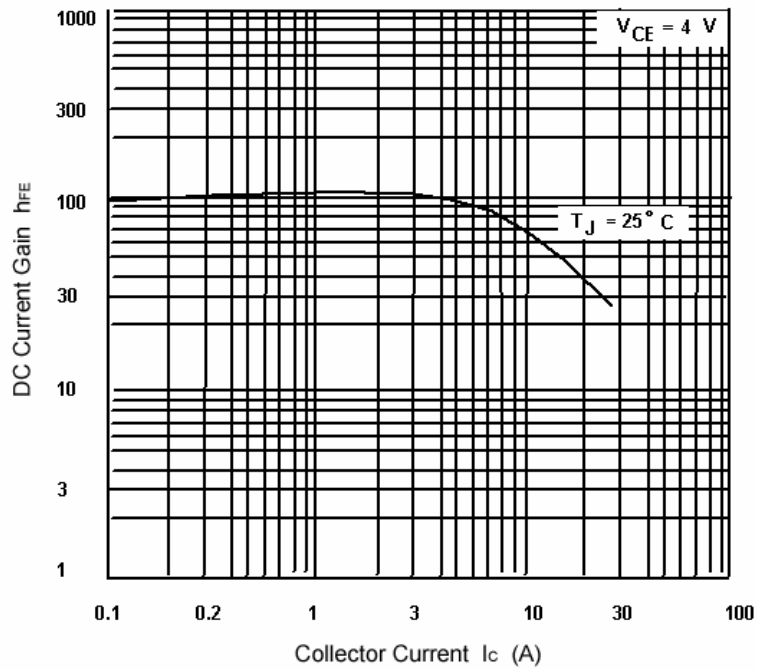


Fig.3 DC current Gain

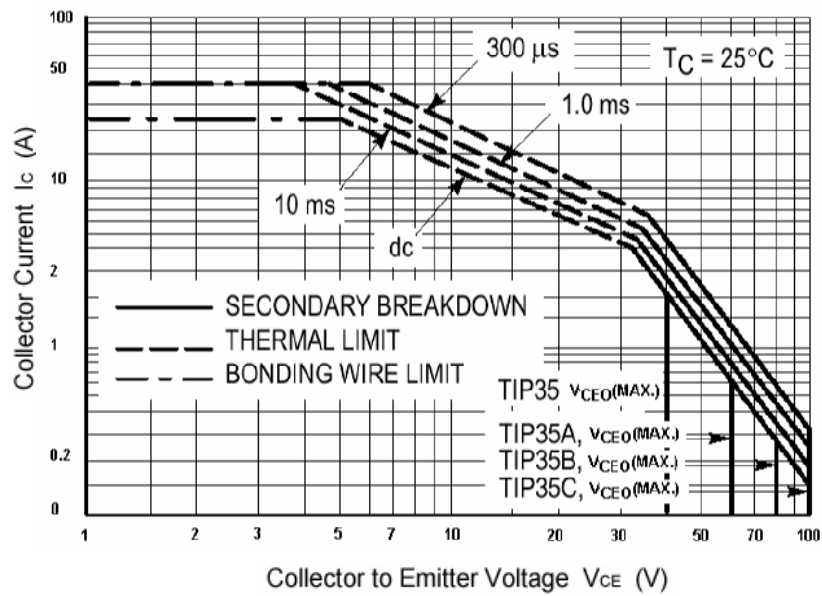


Fig.4 Safe Operating Area