

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

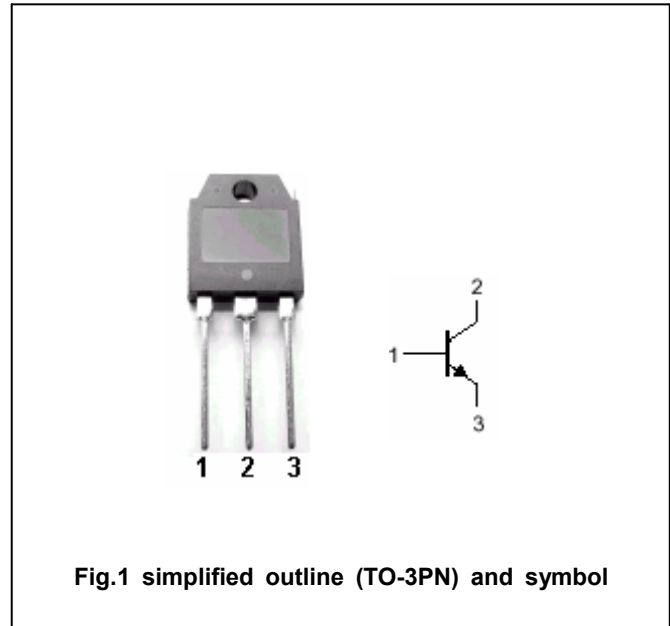


Fig.1 simplified outline (TO-3PN) and symbol

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_j=25°C unless otherwise specified

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

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PACKAGE OUTLINE

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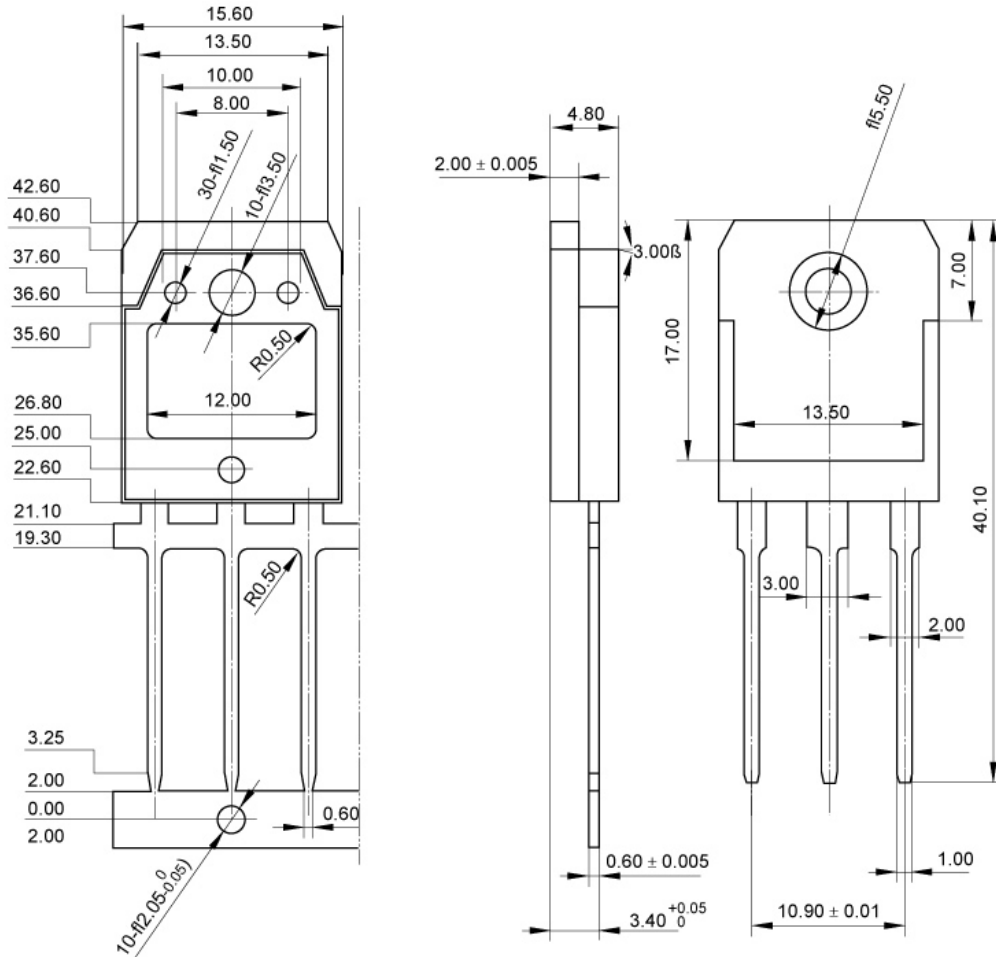


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)

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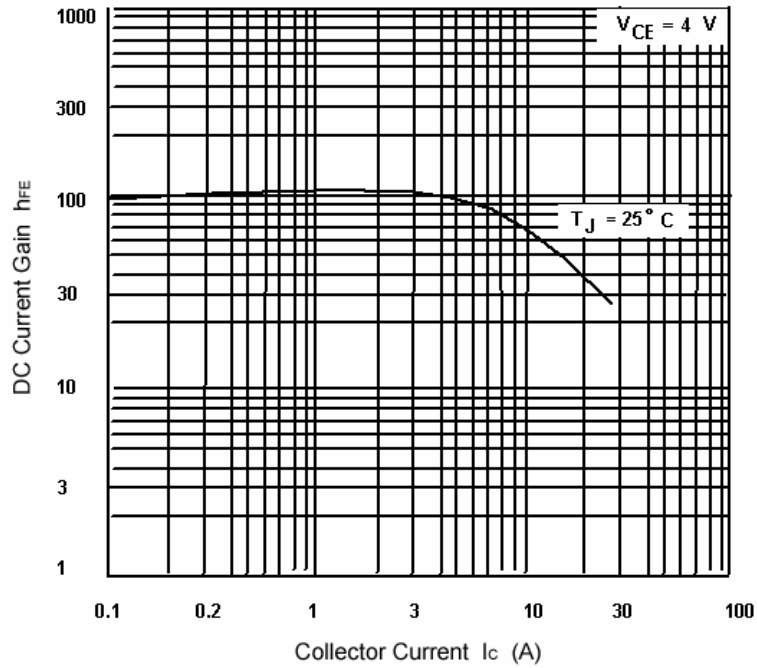


Fig.3 DC current Gain

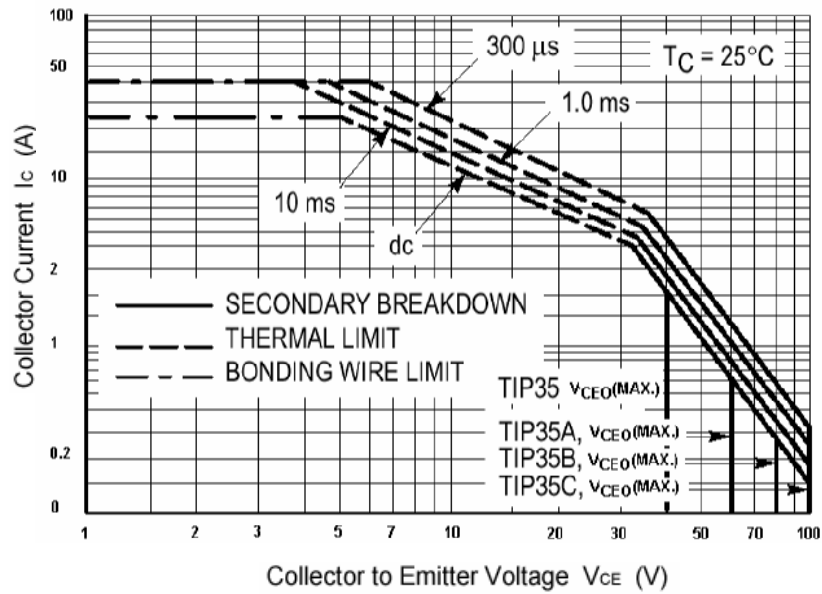


Fig.4 Safe Operating Area