

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

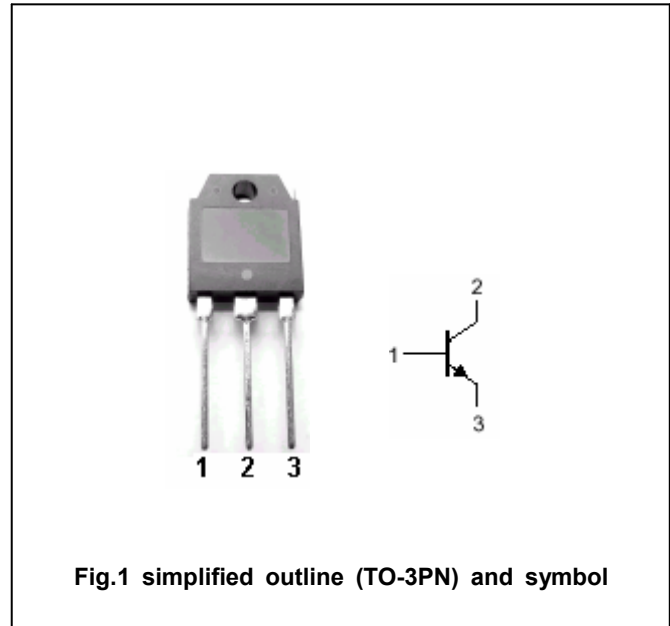


Fig.1 simplified outline (TO-3PN) and symbol

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

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(SUS)CEO}$	Collector-emitter sustaining voltage	TIP35	$I_C=30mA ; I_B=0$	40			V
		TIP35A		60			
		TIP35B		80			
		TIP35C		100			
$V_{CE(sat)-1}$	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	mA
		TIP35B/35C	$V_{CE}=60V ; I_B=0$				
I_{CES}	Collector cut-off current	TIP35	$V_{CE}=40V ; V_{EB}=0$			0.7	mA
		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

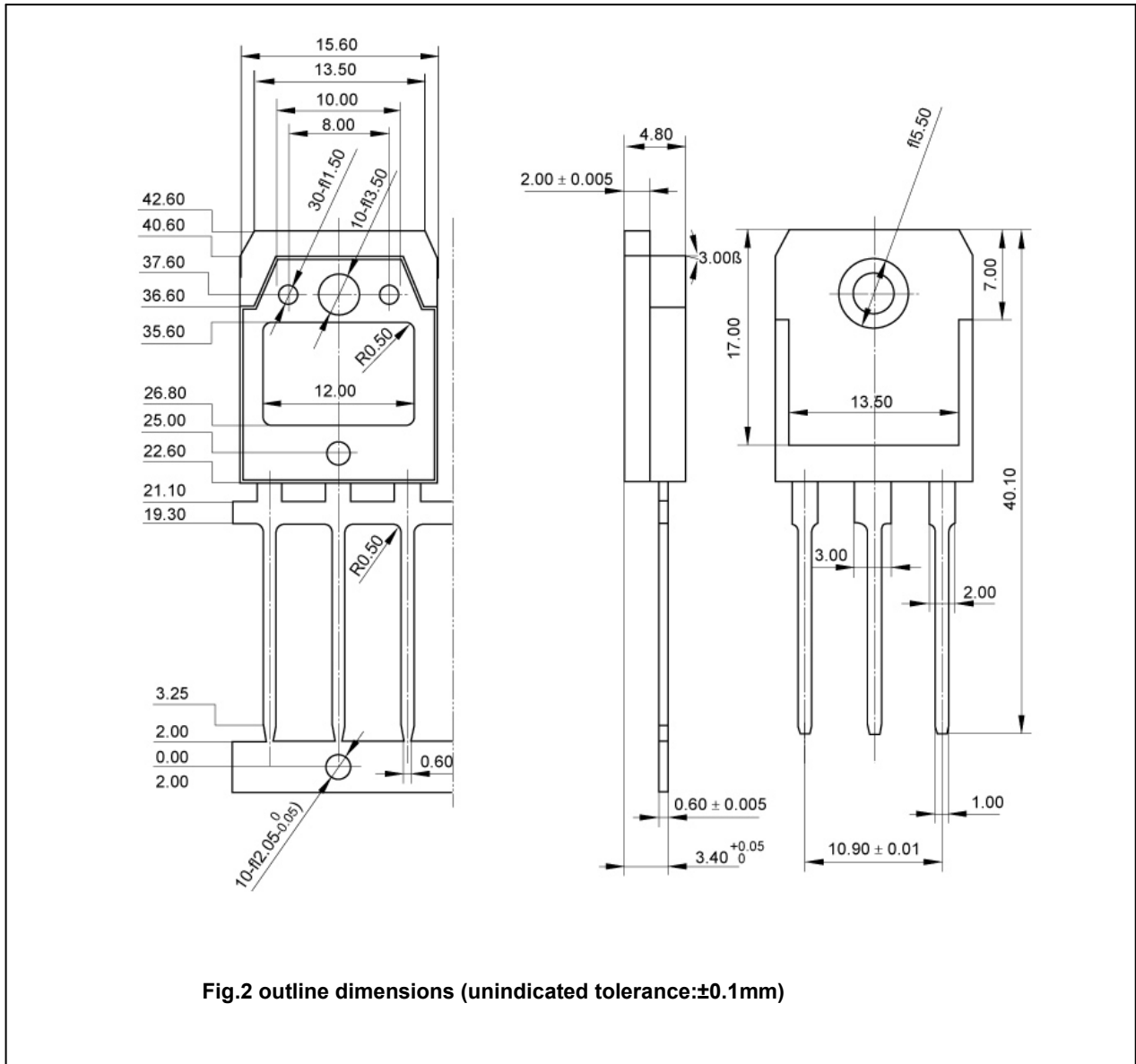


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)

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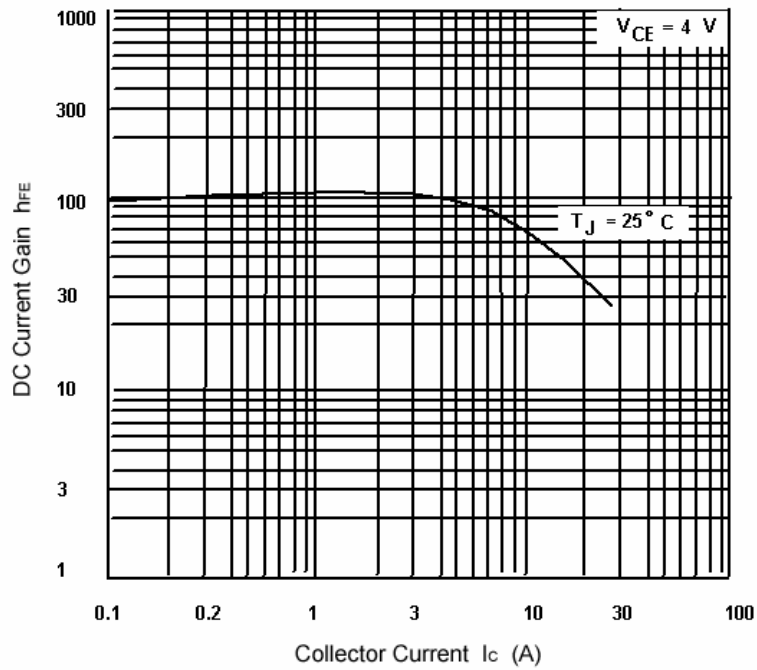


Fig.3 DC current Gain

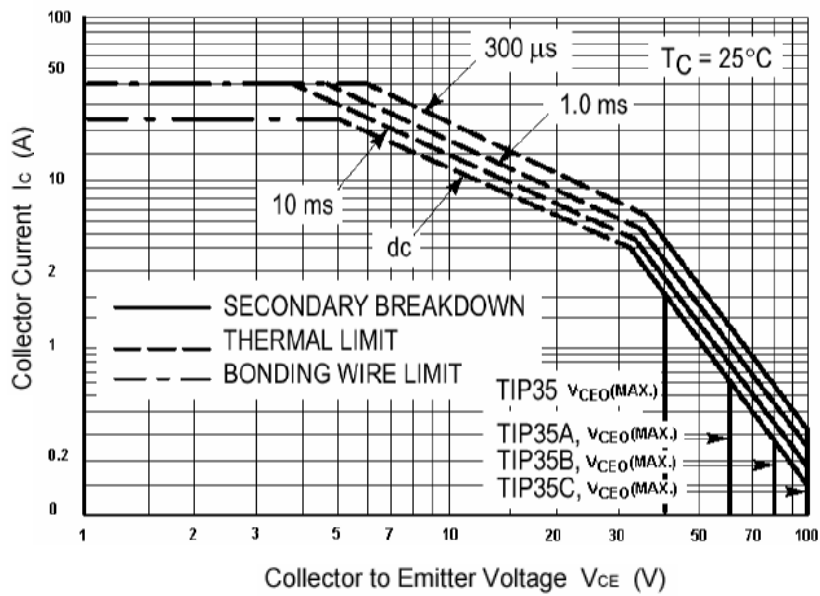


Fig.4 Safe Operating Area