

Silicon NPN Power Transistors

TIP3055

DESCRIPTION

- With TO-3PN package
- Complement to type TIP2955
- 90 W at 25°C case temperature
- 15 A continuous collector current

APPLICATIONS

- Designed for general-purpose switching and amplifier applications.

PINNING

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

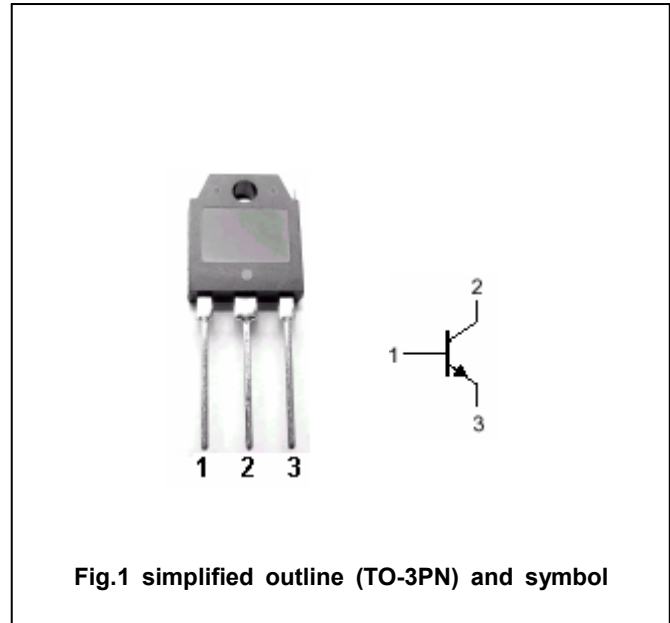


Fig.1 simplified outline (TO-3PN) and symbol

ABSOLUTE MAXIMUM RATINGS($T_C=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	100	V
V_{CEO}	Collector-emitter voltage	Open base	60	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		15	A
I_B	Base current		7	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	90	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.39	$^\circ\text{C}/\text{W}$

Silicon NPN Power Transistors

TIP3055

CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =30mA ; I _B =0	60			V
V _{CE(sat)-1}	Collector-emitter saturation voltage	I _C =4A; I _B =0.4A			1.1	V
V _{CE(sat)-2}	Collector-emitter saturation voltage	I _C =10A ; I _B =3.3A			3.0	V
V _{BE}	Base-emitter on voltage	I _C =4A ; V _{CE} =4V			1.5	V
I _{CEO}	Collector cut-off current	V _{CE} =30V; I _B =0			0.7	mA
I _{CER}	Collector cut-off current	V _{CE} =70Vdc; R _{BE} =100Ohm			1.0	mA
I _{CEV}	Collector cut-off current	V _{CE} =100Vdc, V _{BE(off)} =1.5Vdc			5.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =7V; I _C =0			5.0	mA
h _{FE-1}	DC current gain	I _C =4A ; V _{CE} =4V	20		70	
h _{FE-2}	DC current gain	I _C =10A ; V _{CE} =4V	5.0			
I _{s/b}	Second breakdown collector current with base forward biased	V _{CE} =30Vdc, t=1.0s, Nonrepetitive	3.0			A
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V	2.5			MHz

Silicon NPN Power Transistors

TIP3055

PACKAGE OUTLINE

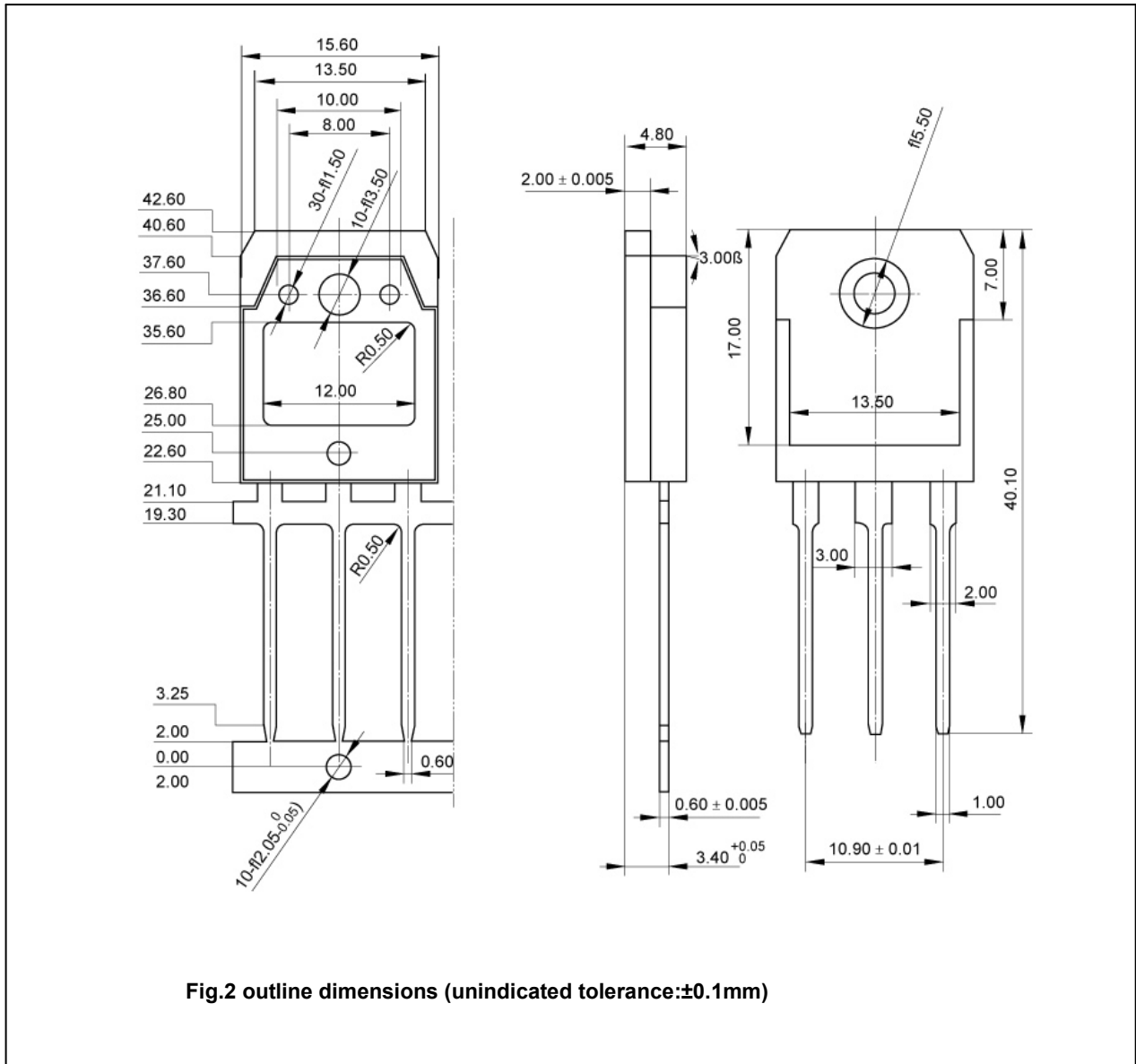


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)

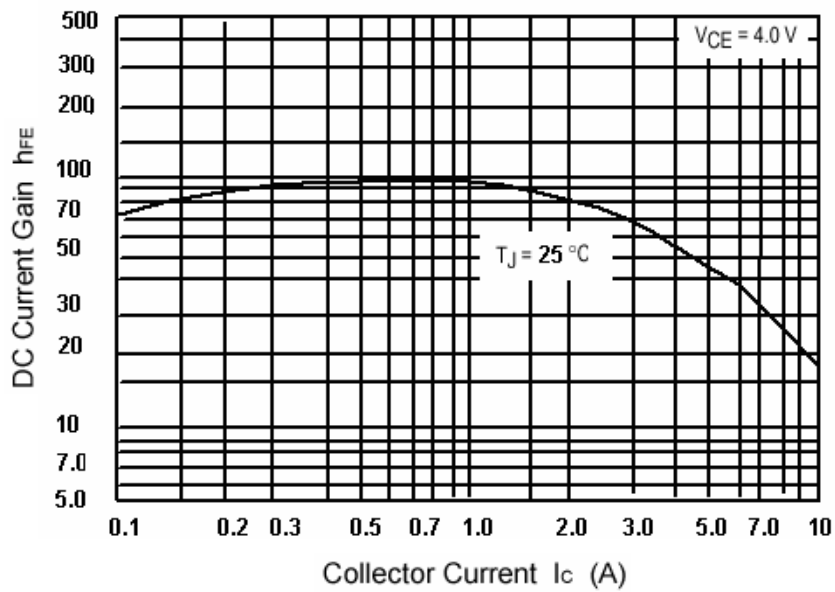


Fig.3 DC current Gain

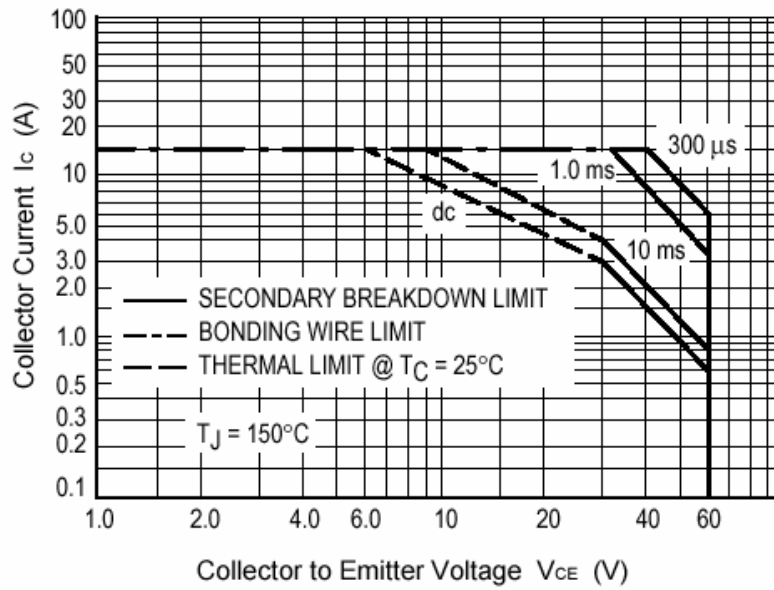


Fig.4 Safe Operating Area