

Silicon NPN Power Transistors

2N3055

DESCRIPTION

- With TO-3 package
- Complement to type MJ2955
- DC Current Gain $-h_{FE} = 20-70$ @ $I_C = 4 \text{ A}$
- Collector–Emitter Saturation Voltage -
 $V_{CE(sat)} = 1.1 \text{ Vdc (Max) @ } I_C = 4 \text{ A}$
- Excellent Safe Operating Area

APPLICATIONS

- Designed for general–purpose switching and amplifier applications.

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

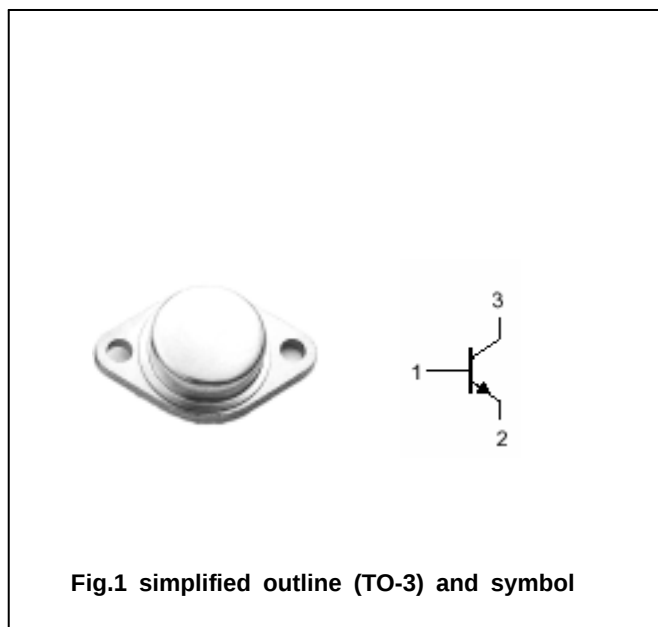


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings($T_a =$)

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	$T_C = 25$	115	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th j-c}$	Thermal resistance junction to case	1.52	/W

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CHARACTERISTICS

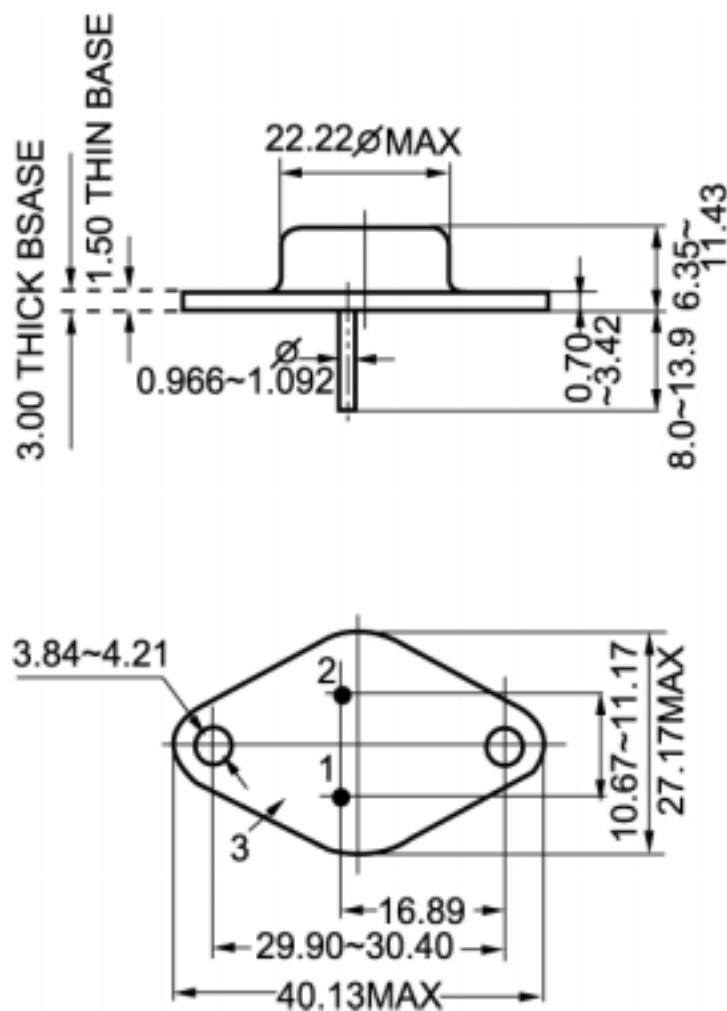
T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A ; I _B =0	60			V
V _{CER}	Collector-emitter sustaining voltage	I _C =0.2A ; R _{BE} =100Ω	70			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =4A ; I _B =0.4A			1.1	V
V _{CEsat-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 _{CEX}	Collector cut-off current	V _{CE} =100V; V _{BE(off)} =1.5V T _C =150			1.0 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} =40Vdc, t=1.0s, Nonrepetitive	2.87			A
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V	2.5			MHz

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PACKAGE OUTLINE

Fig.2 outline dimensions (unindicated tolerance: $\pm 0.1\text{mm}$)

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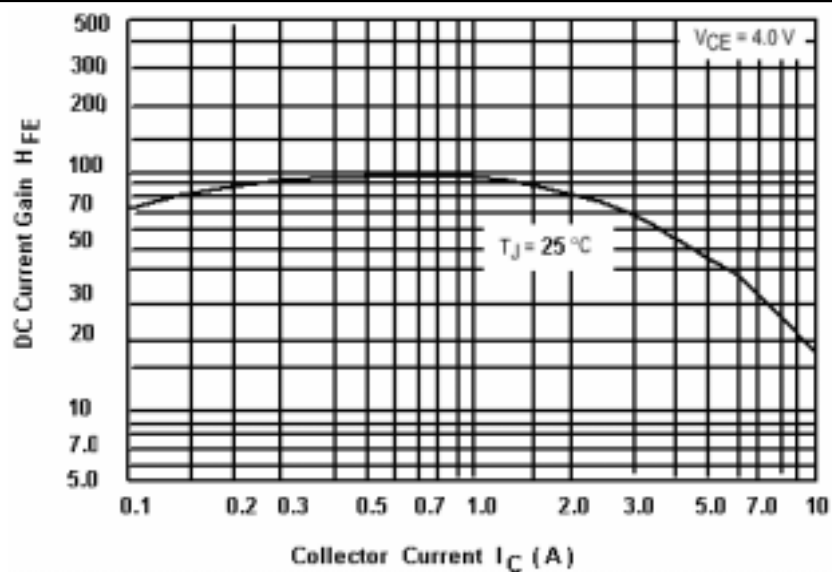


Fig.3 DC current Gain

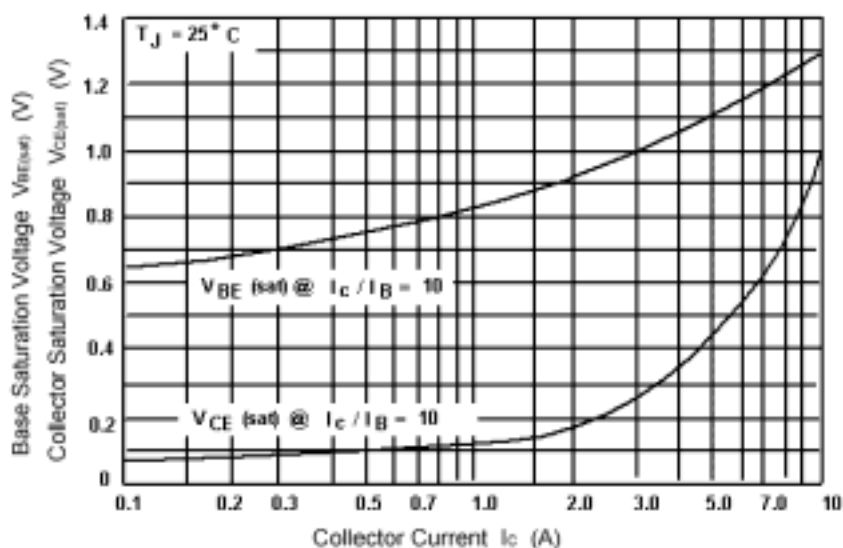
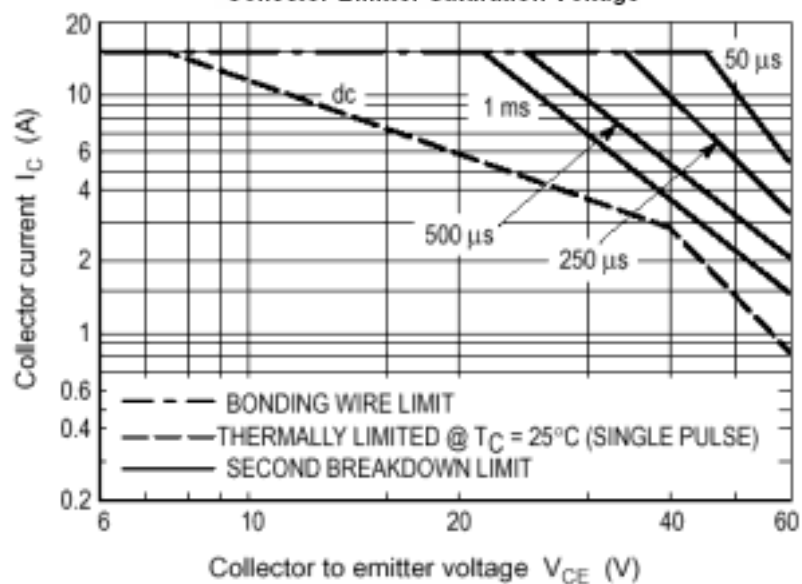
Fig.4 Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

Fig.5 Safe Operating Area