

Silicon NPN Power Transistors

2N3055A

DESCRIPTION

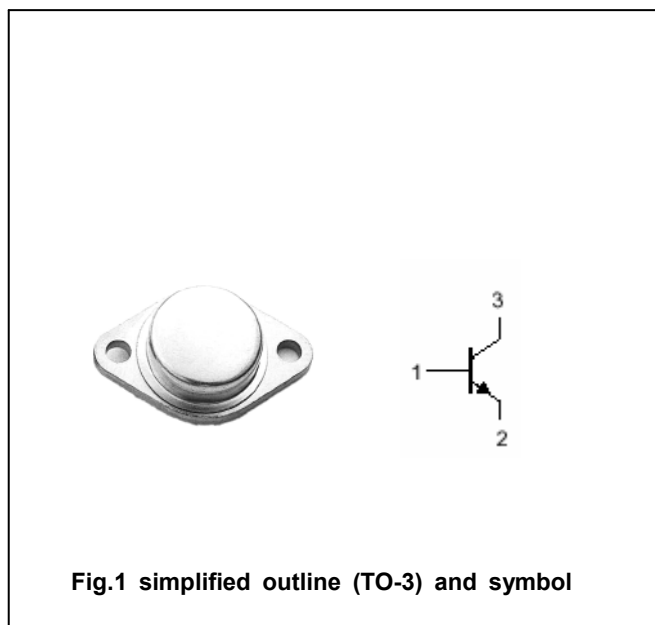
- With TO-3 package
- Complement to type MJ2955A
- Excellent Safe Operating Area

APPLICATIONS

- For high power audio ,stepping motor and other linear applications
- Relay or solenoid drivers
- DC-DC converters inverters

PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings($T_a = \square$)

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

THERMAL CHARACTERISTICS

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

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO}	Collector-emitter sustaining voltage	I _C =0.2A ; I _B =0	60			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 _{CEsat-3}	Collector-emitter saturation voltage	I _C =15A; I _B =7.0A			5.0	V
V _{BE}	Base-emitter on voltage	I _C =4A ; V _{CE} =4V			1.8	V
I _{CEO}	Collector cut-off current	V _{CE} =30V; V _{BE(off)} =0			0.7	mA
I _{CEV}	Collector cut-off current	V _{CE} =Rated Value; V _{BE(off)} =1.5V T _C =150 °C			5.0 30	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} =2V	10		70	
h _{FE-2}	DC current gain	I _C =4A ; V _{CE} =4V	20		70	
h _{FE-3}	DC current gain	I _C =10A ; V _{CE} =4V	5			
I _{s/b}	Second breakdown collector current With base forward biased	V _{CE} =60Vdc, t=0.5 s, Nonrepetitive	1.95			A
C _{OB}	Output capacitance	I _E =0 ; V _{CB} =10V; f=1.0MHz	60		600	pF
f _T	Transition frequency	I _C =1A ; V _{CE} =4V; f=1.0MHz	0.8			MHz

Switching times resistive load

t _d	Delay time	V _{CC} =30V; I _C =4.0A I _{B1} =I _{B2} =0.4A t _p =25µs; Duty Cycle 2%			0.5	µs
t _r	Rise time				4.0	µs
t _s	Storage time				3.0	µs
t _f	Fall time				6.0	µs

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PACKAGE OUTLINE



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

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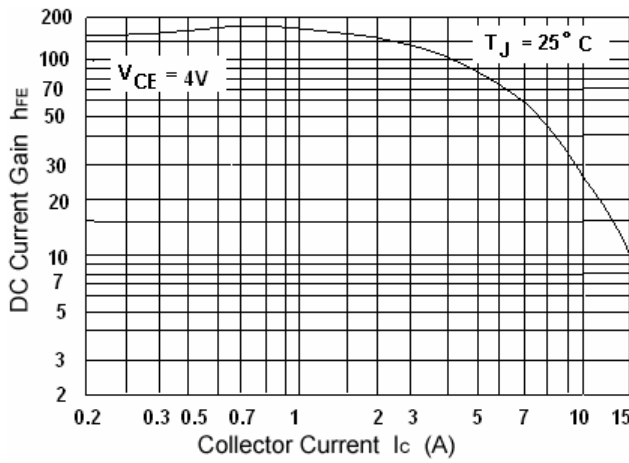


Fig.3 DC current Gain

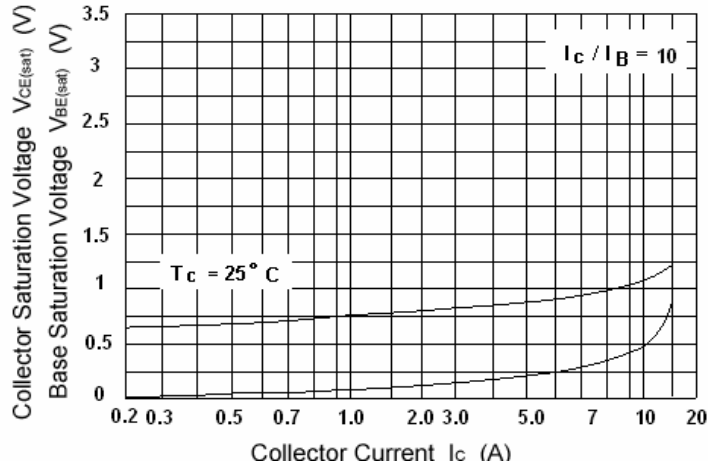


Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

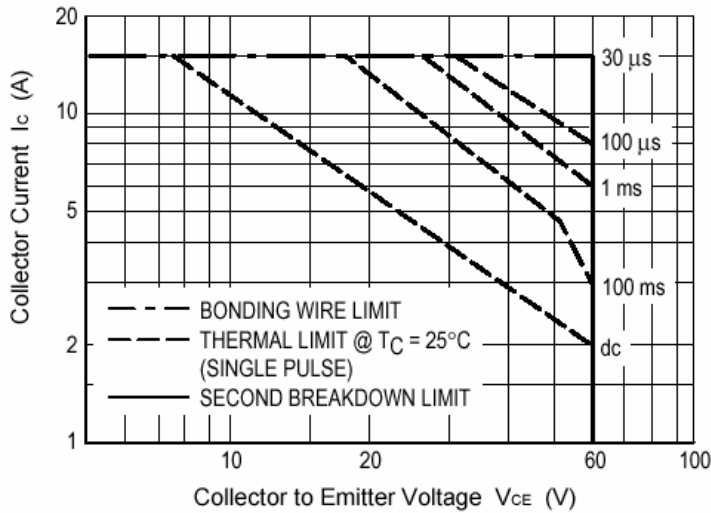


Fig.5 Safe Operating Area