

Silicon NPN Power Transistors

MJE3055T

DESCRIPTION

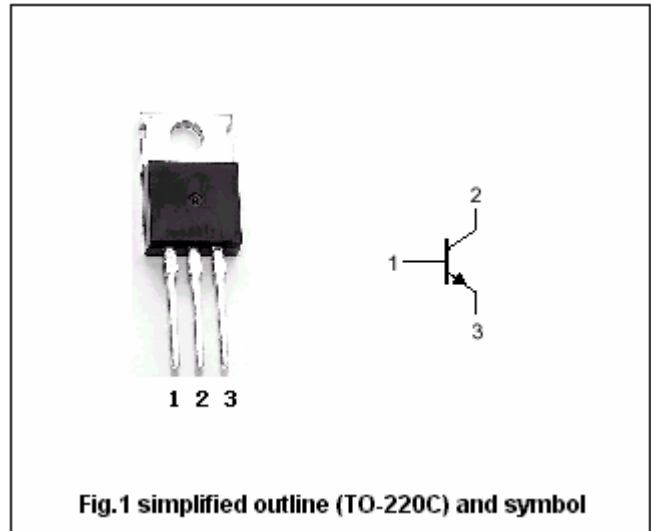
- With TO-220 package
- Complement to type MJE2955T
- DC current gain $-h_{FE} = 20-70 @ I_C = 4 \text{ A}$
- Collector-emitter saturation voltage -
 $V_{CE(sat)} = 1.1 \text{ Vdc (Max) @ } I_C = 4 \text{ A}$

APPLICATIONS

- Designed for general-purpose switching and amplifier applications.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	70	V
V_{CEO}	Collector-emitter voltage	Open base	60	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		10	A
I_B	Base current		6	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	75	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th j-c}$	Thermal resistance junction to case	1.67	$^\circ\text{C/W}$

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A ; 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			8.0	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 ; I _B =0			0.7	mA
I _{CEX}	Collector cut-off current	V _{CE} =70V ; V _{BE(off)} =1.5V T _C =150 °C			1.0 5.0	mA
I _{CBO}	Collector cut-off current	V _{CB} =70V ; I _E =0 T _C =150 °C			1.0 10	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V ; I _C =0			5.0	mA
h _{FE-1}	DC current gain	I _C =4A ; V _{CE} =4V	20		100	
h _{FE-2}	DC current gain	I _C =10A ; V _{CE} =4V	5.0			
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V	2.0			MHz

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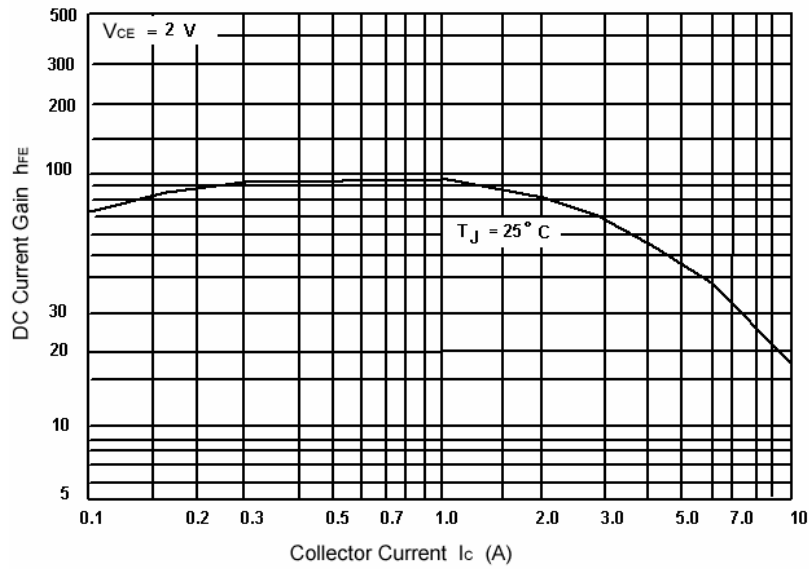


Fig.3 DC current Gain

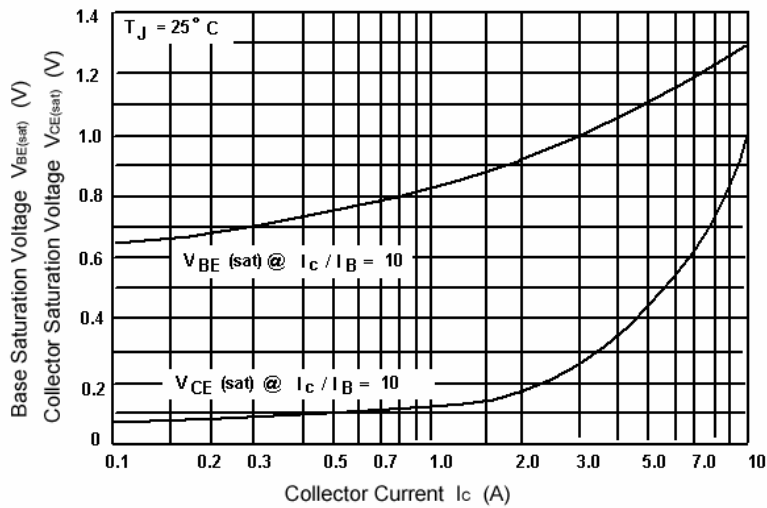


Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

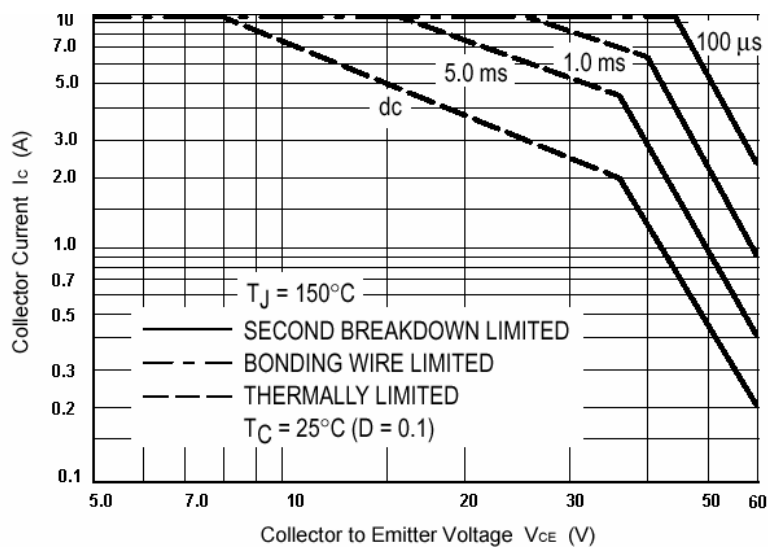


Fig.5 Safe Operating Area