Silicon NPN Power Transistors 2N3055

DESCRIPTION

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

APPLICATIONS

·Designed for general–purpose switching and amplifier applications.

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

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings(Ta=□)

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
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	1.52	□/W

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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

PACKAGE OUTLINE

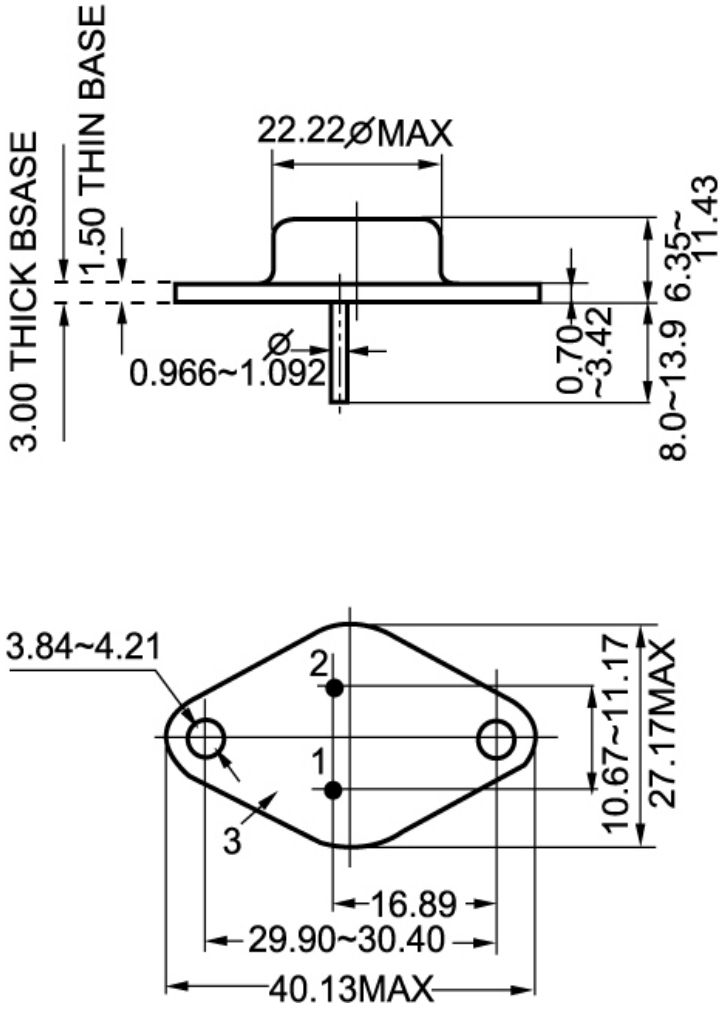

Fig.2 outline dimensions (unindicated tolerance:±0.1mm)

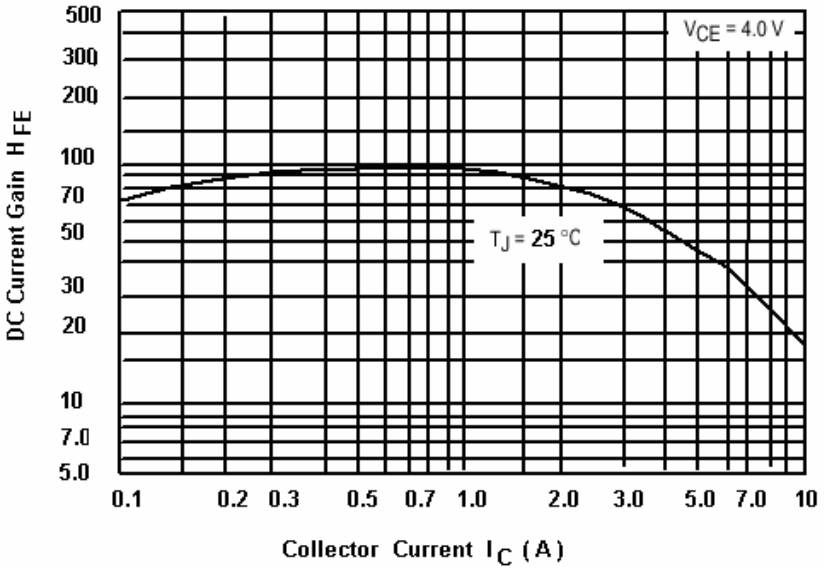

Fig.3 DC current Gain

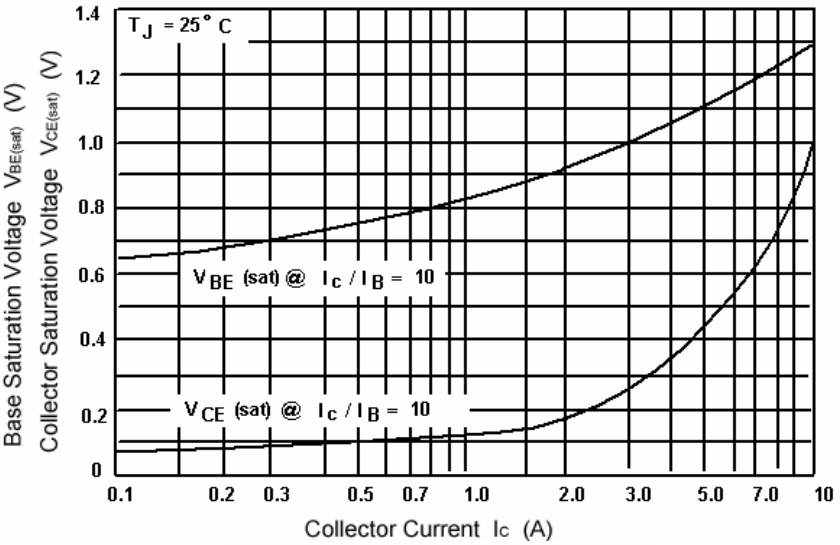

Fig.4Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

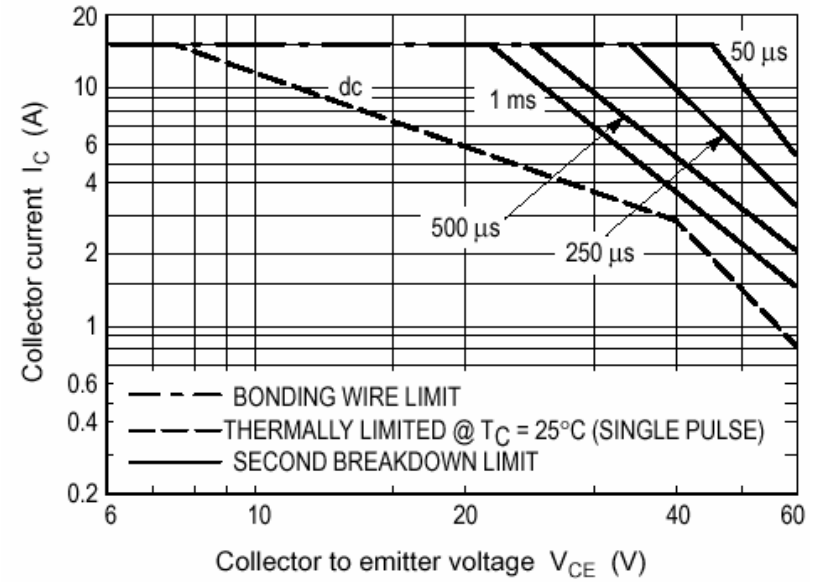

Fig.5 Safe Operating Area