

MJE3055T

General Purpose and Switching Applications

- DC Current Gain Specified to $I_C = 10A$
- High Current Gain-Bandwidth Product : $f_T = 2MHz$ (Min.)



TO-220
1.Base 2.Collector 3.Emitter

NPN Silicon Transistor

Absolute Maximum Ratings $T_C = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector -Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	10	A
I_B	Base Current	6	A
P_C	Collector Dissipation ($T_C = 25^\circ C$)	75	W
P_C	Collector Dissipation ($T_a = 25^\circ C$)	0.6	W
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	- 55 ~ 150	$^\circ C$

Electrical Characteristics $T_C = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 200mA, I_B = 0$	60		V
I_{CEO}	Collector Cut-off Current	$V_{CE} = 30V, I_B = 0$		700	μA
I_{CEX1} I_{CEX2}	Collector Cut-off Current	$V_{CE} = 70V, V_{BE(off)} = -1.5V$ $V_{CE} = 70V, V_{BE(off)} = -1.5V$ @ $T_C = 150^\circ C$		1 5	mA mA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5V, I_C = 0$		5	mA
h_{FE}	*DC Current Gain	$V_{CE} = 4V, I_C = 4A$ $V_{CE} = 4V, I_C = 10A$	20 5	100	
$V_{CE(sat)}$	*Collector-Emitter Saturation Voltage	$I_C = 4A, I_B = 0.4A$ $I_C = 10A, I_B = 3.3A$		1.1 8	V V
$V_{BE(on)}$	*Base-Emitter On Voltage	$V_{CE} = 4V, I_C = 4A$		1.8	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 10V, I_C = 500mA$	2		MHz

* Pulse test: $PW \leq 300\mu s$, duty cycle $\leq 2\%$ Pulse

Typical Characteristics

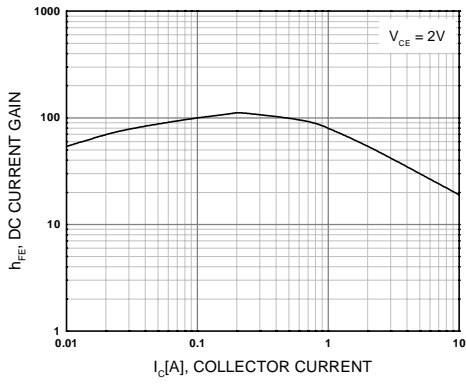


Figure 1. DC current Gain

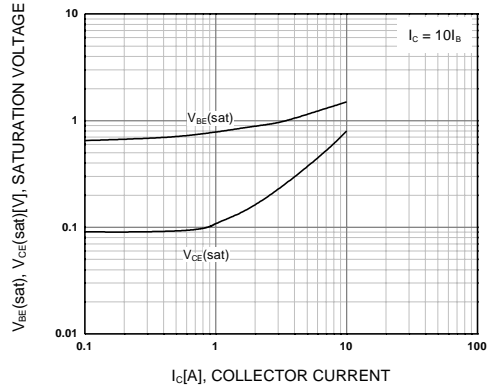


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

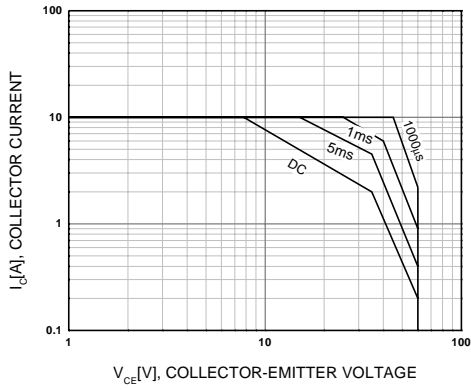


Figure 3. Safe Operating Area

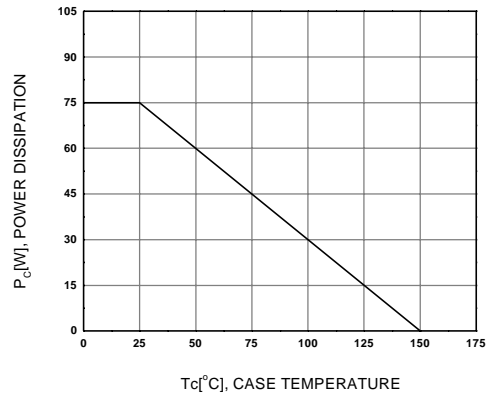


Figure 4. Power Derating

Package Dimensions

MJE3055T

TO-220



Dimensions in Millimeters

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