

# 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	$\mu A$
$I_{CEX1}$ $I_{CEX2}$	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

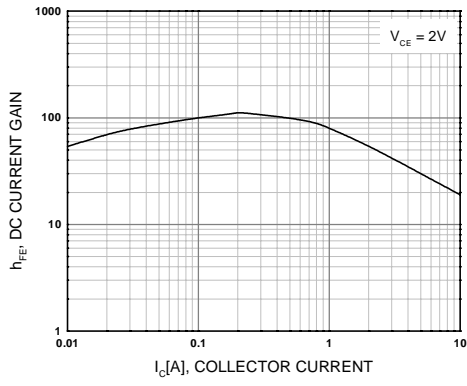


Figure 1. DC current Gain

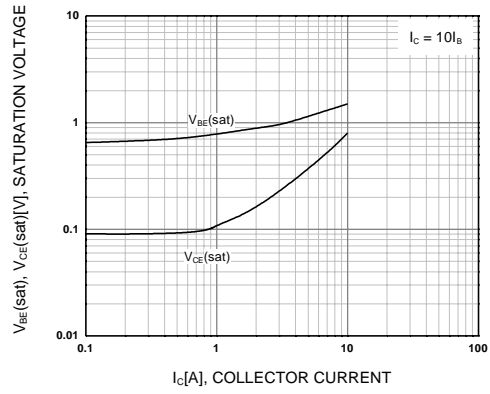


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

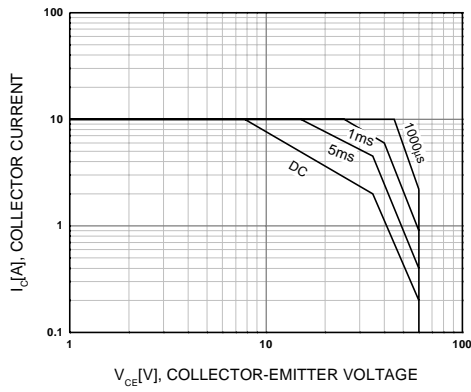


Figure 3. Safe Operating Area

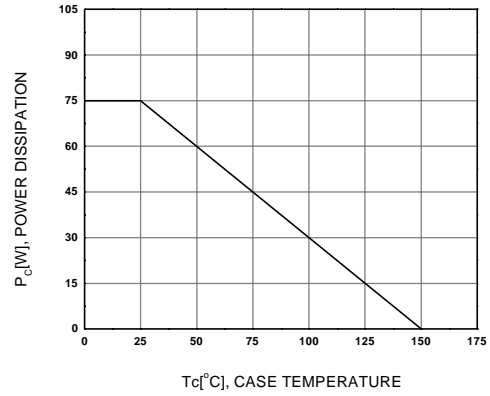


Figure 4. Power Derating

# Package Dimensions

MJE3055T

## TO-220



Dimensions in Millimeters

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