

## **MJE3055T**

## **General Purpose and Switching Applications**

- DC Current Gain Specified to I<sub>C</sub> =10A
   High Current Gain-Bandwidth Product : f<sub>T</sub> = 2MHz (Min.)



1.Base 2.Collector 3.Emitter

## **NPN Silicon Transistor**

## **Absolute Maximum Ratings** T<sub>C</sub>=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector -Base Voltage	70	V
V <sub>CEO</sub>	Collector-Emitter Voltage	60	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current	10	Α
I <sub>B</sub>	Base Current	6	Α
P <sub>C</sub>	Collector Dissipation (T <sub>C</sub> =25°C)	75	W
P <sub>C</sub>	Collector Dissipation (T <sub>a</sub> =25°C)	0.6	W
TJ	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	- 55 ~ 150	°C

## **Electrical Characteristics** $T_C=25$ °C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	$I_C = 200 \text{mA}, I_B = 0$	60		V
I <sub>CEO</sub>	Collector Cut-off Current	$V_{CE} = 30V, I_{B} = 0$		700	μΑ
I <sub>CEX1</sub> I <sub>CEX2</sub>	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 <sub>EBO</sub>	Emitter Cut-off Current	$V_{EB} = 5V, I_{C} = 0$		5	mA
h <sub>FE</sub>	*DC Current Gain	$V_{CE} = 4V, I_{C} = 4A$ $V_{CE} = 4V, I_{C} = 10A$	20 5	100	
V <sub>CE</sub> (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 <sub>BE</sub> (on)	*Base-Emitter On Voltage	$V_{CE} = 4V$ , $I_C = 4A$		1.8	V
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> = 10V, I <sub>C</sub> = 500mA	2		MHz

<sup>\*</sup> Pulse test: PW≤300µs, duty cycle≤2% Pulse

# **Typical Characteristics**

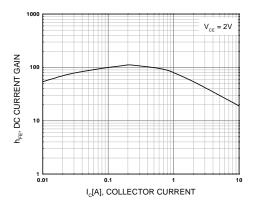


Figure 1. DC current Gain

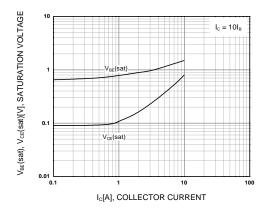


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

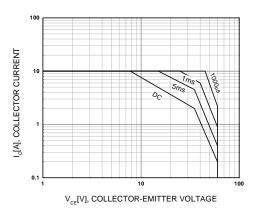


Figure 3. Safe Operating Area

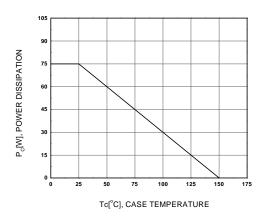
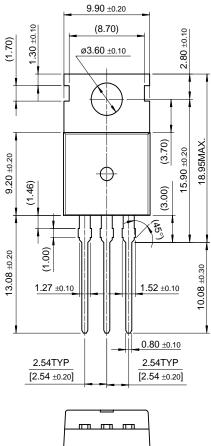


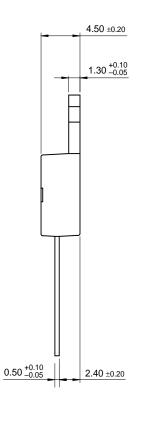
Figure 4. Power Derating

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# **Package Demensions**

# TO-220





10.00 ±0.20

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