



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220 Plastic-Encapsulate Transistors

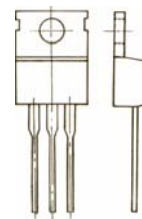
MJE3055 TRANSISTOR (NPN)

FEATURES

GENERAL PURPOSE AND SWITCHING APPLICATIONS.

TO-220

1. BASE
2. COLLECTOR
3. EMITTER



1 2 3

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ 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 -Continuous	10	A
P_{C}	Collector Power Dissipation	2	W
T_{j}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55-150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{\text{amb}}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}}=1\text{mA}$, $I_{\text{E}}=0$	70			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}}=200\text{mA}$, $I_{\text{B}}=0$	60			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}}=1\text{mA}$, $I_{\text{C}}=0$	5			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=70\text{V}$, $I_{\text{E}}=0$			1	mA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=5\text{V}$, $I_{\text{C}}=0$			5	mA
DC current gain	$h_{\text{FE}(1)}^*$	$V_{\text{CE}}=4\text{V}$, $I_{\text{C}}=4\text{A}$	20		100	
	$h_{\text{FE}(2)}^*$	$V_{\text{CE}}=4\text{V}$, $I_{\text{C}}=10\text{A}$	5			
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}^*$	$I_{\text{C}}=4\text{A}$, $I_{\text{B}}=0.4\text{A}$			1.1	V
	$V_{\text{CE(sat)}}^*$	$I_{\text{C}}=10\text{A}$, $I_{\text{B}}=3.3\text{A}$			8	V
Base-emitter voltage	V_{BE}^*	$V_{\text{CE}}=4\text{V}$, $I_{\text{C}}=4\text{A}$			1.8	V
Transition frequency	f_{T}	$V_{\text{CE}}=10\text{V}$, $I_{\text{C}}=0.5\text{A}$	2			MHz

Note:*Pulse test: $t_{\text{p}} \leq 300\mu\text{S}$, $\delta \leq 0.02$.

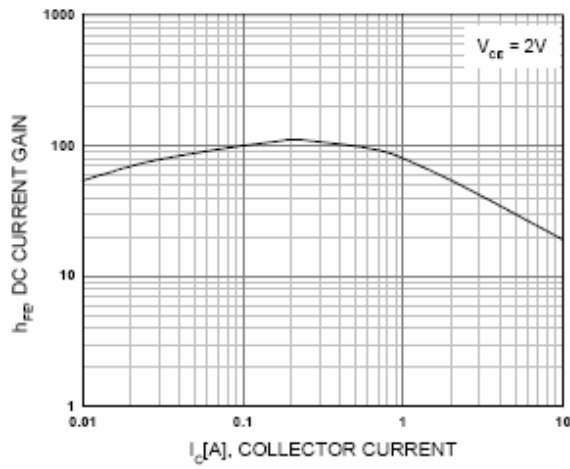


Figure 1. DC current Gain

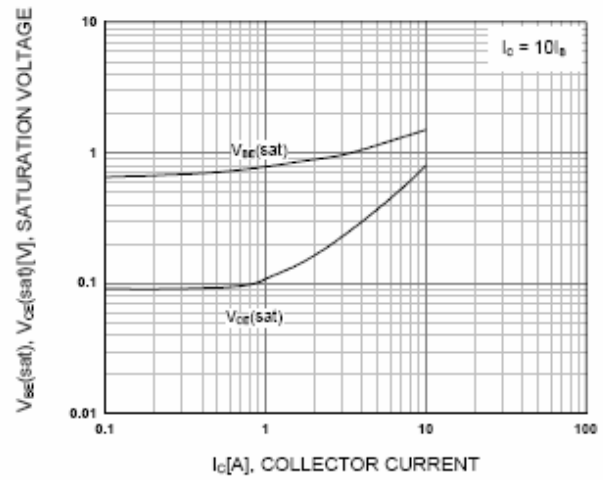


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

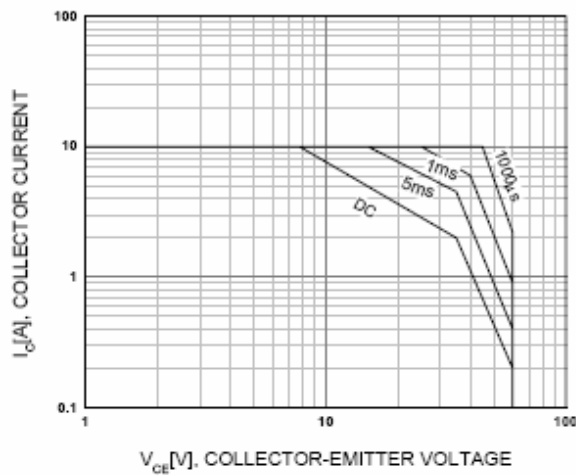


Figure 3. Safe Operating Area

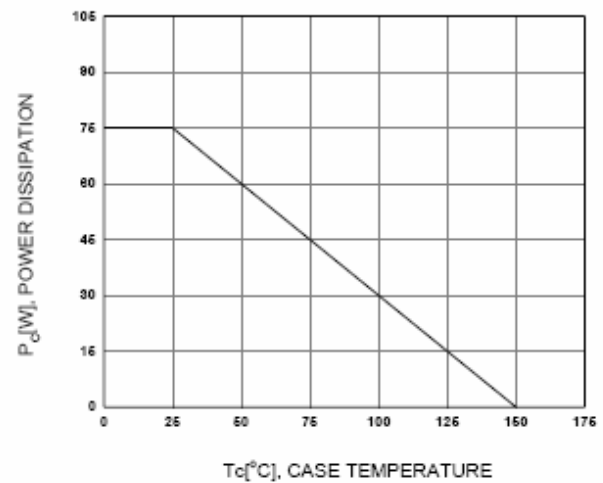


Figure 4. Power Derating