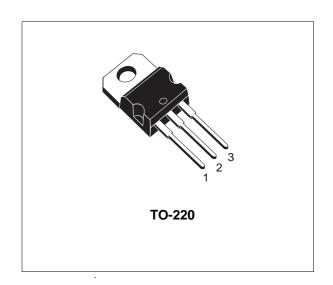


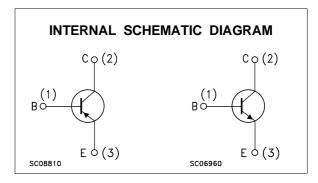
# COMPLEMENTARY SILICON POWER TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- COMPLEMENTARY PNP NPN DEVICES

#### **DESCRIPTION**

The MJE3055T is a silicon Epitaxial-Base NPN transistor in Jedec TO-220 package. It is intended for power switching circuits and general-purpose amplifiers. The complementary PNP type is MJE2955T.





### **ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit	
		NPN	MJE3055T	
		PNP	MJE2955T	
$V_{CEO}$	Collector-Emitter Voltage (I <sub>B</sub> = 0)		60	V
V <sub>CBO</sub>	Collector-Base Voltage (I <sub>E</sub> = 0)		70	V
$V_{EBO}$	Emitter-Base Voltage (I <sub>C</sub> = 0)		5	V
Ic	Collector Current		10	А
IΒ	Base Current		6	А
P <sub>tot</sub>	Total Power Dissipation at T <sub>case</sub> ≤ 25 °C		75	W
T <sub>stg</sub>	Storage Temperature		-55 to 150	°C
Tj	Max. Operating Junction Temperature		150	°C

For PNP types voltage and current values are negative.

September 2003

## MJE2955T / MJE3055T

### THERMAL DATA

R <sub>thj-case</sub> Thermal Resistance Junction-case	Max	1.66	°C/W
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# **ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25$ $^{\circ}C$ unless otherwise specified)

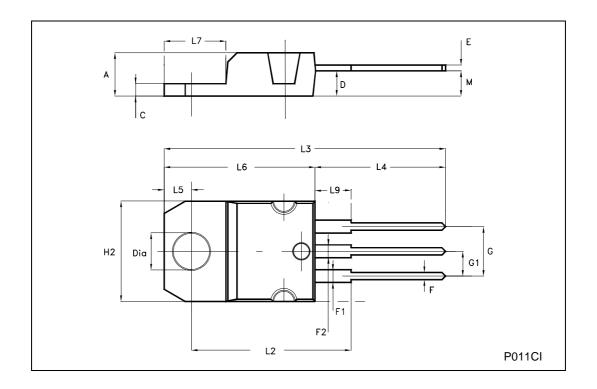
Symbol	Parameter	Test Condition	ons	Min.	Тур.	Max.	Unit
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = 30 V				700	μΑ
I <sub>CEX</sub>	Collector Cut-off Current (V <sub>BE</sub> = 1.5V)	$V_{CE} = 70 \text{ V}$ $T_{case} = 150^{\circ}\text{C}$				1 5	mA mA
I <sub>CBO</sub>	Collector Cut-off Current (I <sub>E</sub> = 0)	$V_{CBO} = 70 \text{ V}$ $T_{case} = 150^{\circ}\text{C}$				1 10	mA mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EBO</sub> = 5 V				5	mA
$V_{\text{CEO(sus)}^{*}}$	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = 200 mA		60			V
$V_{CE(sat)^*}$	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 4 A I <sub>C</sub> = 10 A	$I_B = 0.4 A$ $I_B = 3.3 A$			1.1 8	V V
$V_{BE(on)^*}$	Base-Emitter on Voltage	Ic = 4 A	$V_{CE} = 4 V$			1.8	V
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 4 A I <sub>C</sub> = 10 A	V <sub>CE</sub> = 4 V V <sub>CE</sub> = 4 V	20 5		70	
f <sub>T</sub>	Transistor Frequency	I <sub>C</sub> = 500 mA f = 500 KHz	V <sub>CE</sub> = 10 V	2			MHz

\* Pulsed: Pulse duration =  $300\mu s$ , duty cycle  $\leq 2\%$ For PNP type voltage and current values are negative.

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# **TO-220 MECHANICAL DATA**

DIM.	mm			inch			
DINI.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Α	4.40		4.60	0.173		0.181	
С	1.23		1.32	0.048		0.052	
D	2.40		2.72	0.094		0.107	
E	0.49		0.70	0.019		0.027	
F	0.61		0.88	0.024		0.034	
F1	1.14		1.70	0.044		0.067	
F2	1.14		1.70	0.044		0.067	
G	4.95		5.15	0.194		0.202	
G1	2.40		2.70	0.094		0.106	
H2	10.00		10.40	0.394		0.409	
L2		16.40			0.645		
L4	13.00		14.00	0.511		0.551	
L5	2.65		2.95	0.104		0.116	
L6	15.25		15.75	0.600		0.620	
L7	6.20		6.60	0.244		0.260	
L9	3.50		3.93	0.137		0.154	
М		2.60			0.102		
DIA.	3.75		3.85	0.147		0.151	



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