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2N3055
MJ2955

COMPLEMENTARY SILICON POWER TRANSISTORS

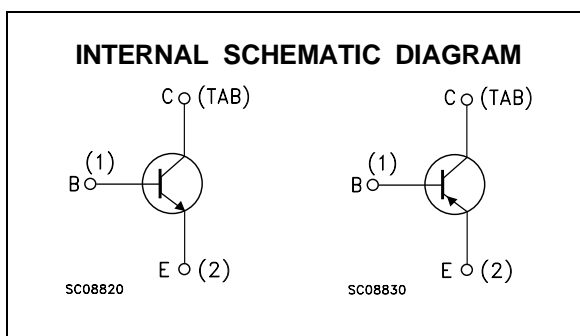
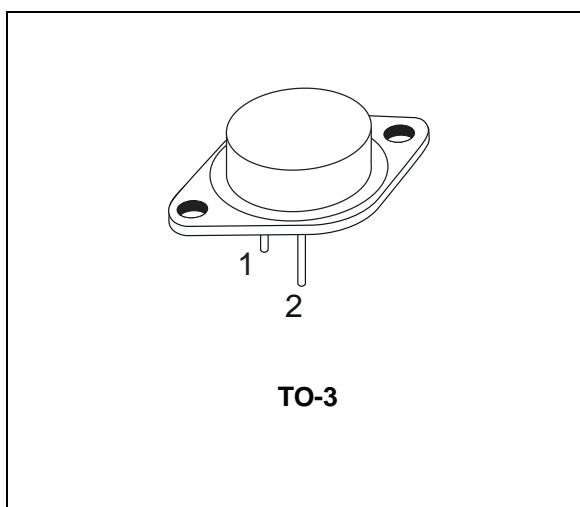
- STMicroelectronics PREFERRED SALESTYPES
- COMPLEMENTARY NPN-PNP DEVICES

DESCRIPTION

The 2N3055 is a silicon Epitaxial-Base Planar NPN transistor mounted in Jedec TO-3 metal case.

It is intended for power switching circuits, series and shunt regulators, output stages and high fidelity amplifiers.

The complementary PNP type is MJ2955.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	MJ2955	
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	100		V
V_{CER}	Collector-Emitter Voltage ($R_{BE} \leq 100\Omega$)	70		V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	60		V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	7		V
I_C	Collector Current	15		A
I_B	Base Current	7		A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ C$	115		W
T_{stg}	Storage Temperature	-65 to 200		$^\circ C$
T_j	Max. Operating Junction Temperature	200		$^\circ C$

For PNP types voltage and current values are negative.

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THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.5	$^{\circ}\text{C}/\text{W}$
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

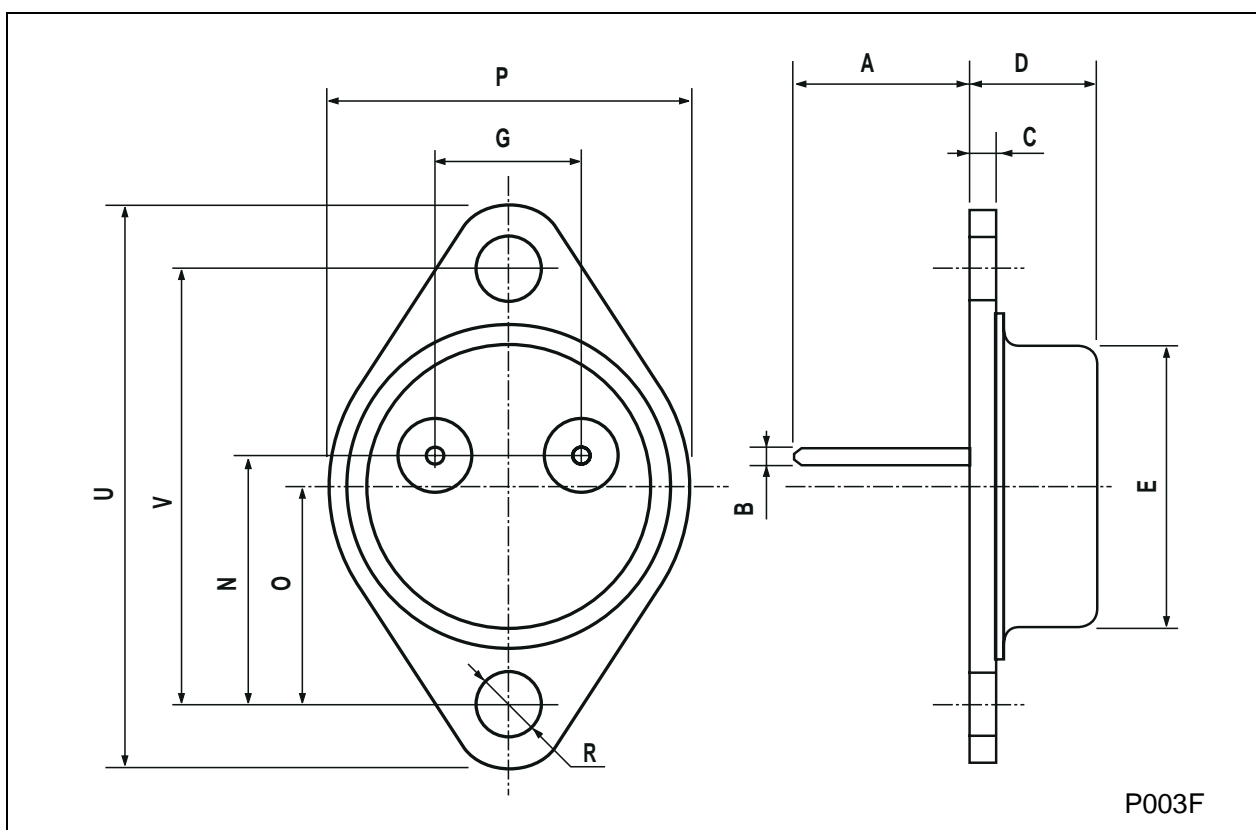
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cut-off Current ($V_{BE} = -1.5\text{V}$)	$V_{CE} = 100\text{V}$ $V_{CE} = 100\text{V}$ $T_j = 150^{\circ}\text{C}$			1 5	mA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 30\text{V}$			0.7	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 7\text{V}$			5	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 200\text{mA}$	60			V
$V_{CER(sus)}^*$	Collector-Emitter Sustaining Voltage ($R_{BE} = 100\ \Omega$)	$I_C = 200\text{mA}$	70			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 4\text{A}$ $I_B = 400\text{mA}$ $I_C = 10\text{A}$ $I_B = 3.3\text{A}$			1 3	V V
V_{BE}^*	Base-Emitter Voltage	$I_C = 4\text{A}$ $V_{CE} = 4\text{A}$			1.8	V
h_{FE}^*	DC Current Gain	$I_C = 4\text{A}$ $V_{CE} = 4\text{A}$ $I_C = 10\text{A}$ $V_{CE} = 4\text{A}$	20 5		70	
f_T	Transition frequency	$I_C = 0.5\text{A}$ $V_{CE} = 10\text{V}$	3			MHz
$I_{s/b}^*$	Second Breakdown Collector Current	$V_{CE} = 40\text{V}$	2.87			A

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %
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TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



P003F

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