



2N3055
5
MJ2955
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COMPLEMENTARY SILICON POWER TRANSISTORS

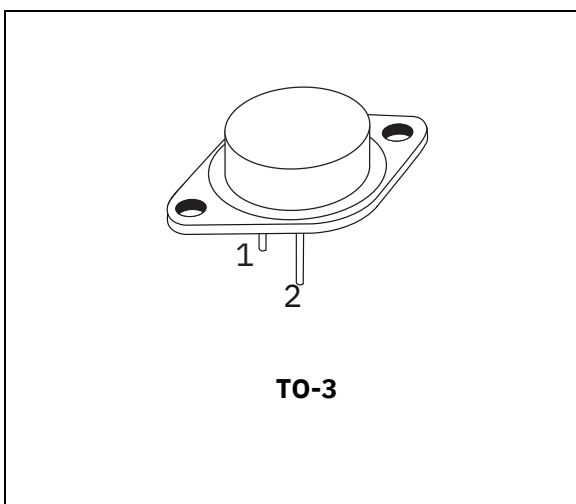
- STMicroelectronics PREFERRED SALESTYPES
- COMPLEMENTARY NPN-PNP DEVICES

DESCRIPTION

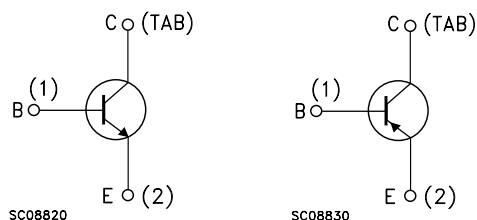
The 2N3055 is a silicon Epitaxial-Base Planar NPN transistor mounted in Jedec TO-3 metal case.

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

The complementary PNP type is MJ2955.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	NP	Value	Unit
		N	MJ2955	
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	PNP	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.

THERMAL DATA

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

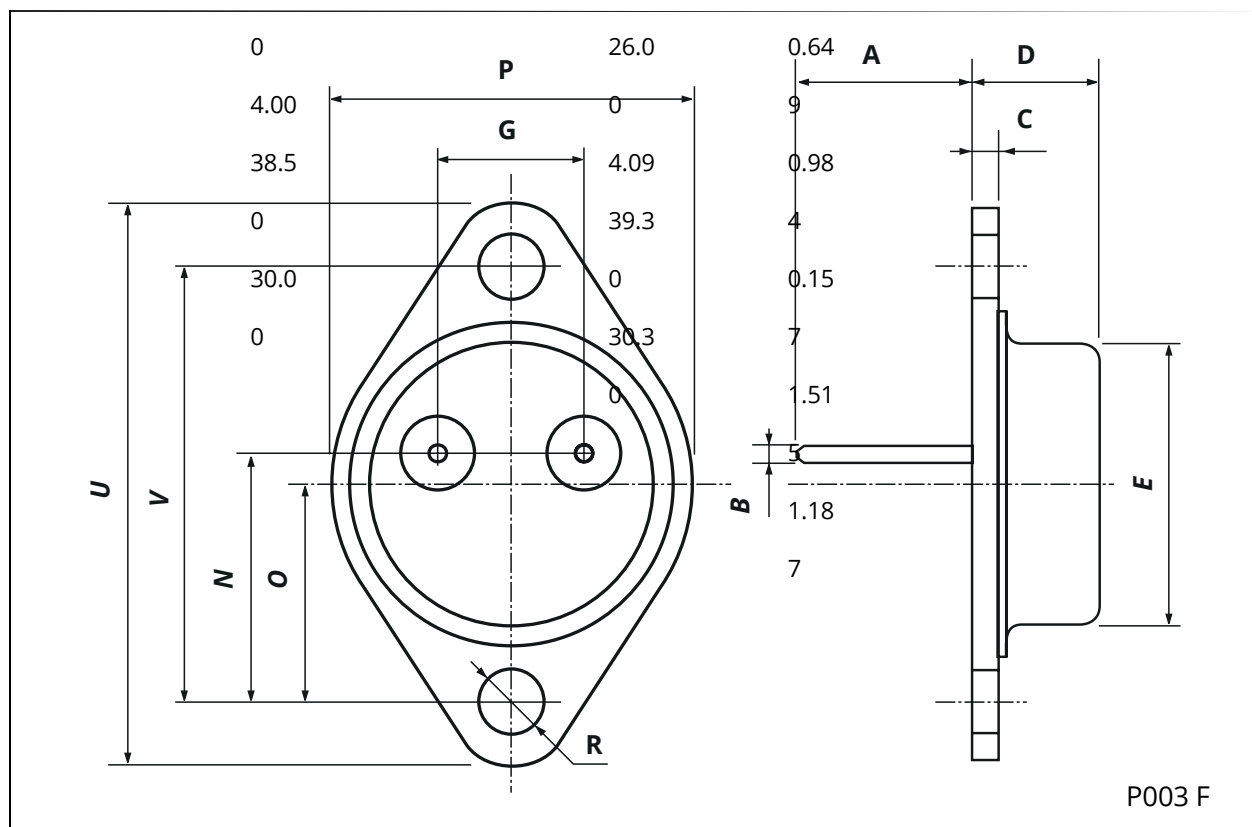
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
ICEX	Collector Cut-off Current ($V_{BE} = -1.5\text{ V}$)	$V_{CE} = 100\text{ V}$ $V_{oCE} = 100\text{ V}$ $T_j = 150\text{ °C}$				1 mA 5 mA
ICEO	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 30\text{ V}$			0.7	mA
IEBO	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 7\text{ V}$				5 mA
VCFO(sus) *	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 200\text{ mA}$	60			V
VCER(sus) *	Collector-Emitter Sustaining Voltage ($R_{BE} = 100\text{ }\Omega$)	$I_C = 200\text{ mA}$	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	$I_C = 4\text{ A}$ $V_{CE} = 4\text{ V}$			1.8	V
h_{FE} *	DC Current Gain	$I_C = 4\text{ A}$ $V_{CE} = 4\text{ V}$ $I_C = 10\text{ A}$ $V_{CE} = 4\text{ V}$	20 5		70	
f_T *	Transition frequency	$I_C = 0.5\text{ A}$ $V_{CE} = 10\text{ V}$	3			MHz
$I_{s/b}$ μ	Second Breakdown Collector Current	$V_{CE} = 40\text{ V}$	2.87			A

* Pulsed: Pulse duration = 300 s, duty cycle 1.5 %

For PNP types voltage and current values are negative.

TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX	MIN.	TYP.	MAX
A	11.0		.	0.43		.
B	0		13.1	3		0.516
C	0.97		0	0.03		0.045
D	1.50		1.15	8		0.065
E	8.32		1.65	0.05		0.351
G	19.0		8.92	9		0.787
N	0		20.0	0.32		0.437
P	10.7		0	7		0.677
R	0		11.1	0.74		1.023
U	16.5		0	8		0.161
V	0		17.2	0.42		1.547
	25.0		0	1		1.193



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