



2N3055
MJ2955

COMPLEMENTARY SILICON POWER TRANSISTORS

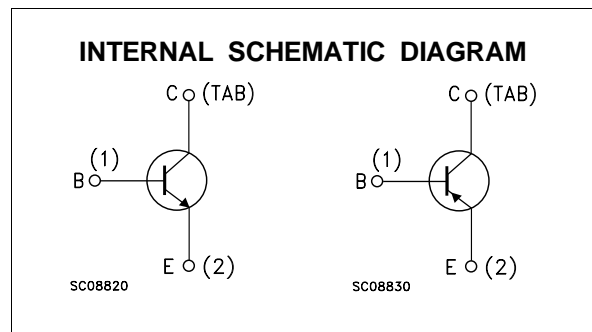
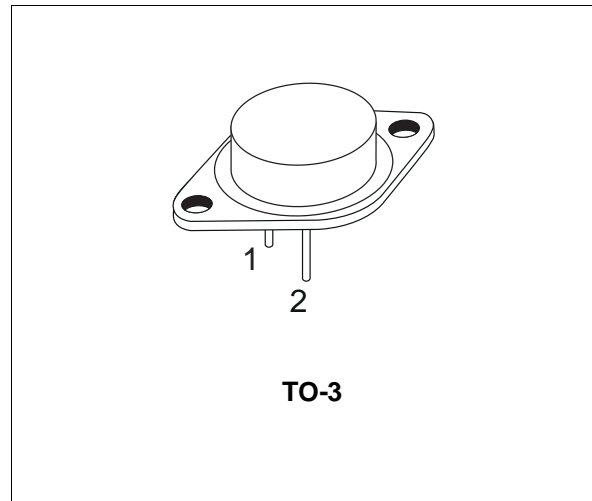
- ST PREFERRED SALESTYPES
- COMPLEMENTARY NPN-PNP DEVICES

DESCRIPTION

The 2N3055 is a silicon epitaxial-base NPN transistor 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	2N3055	
		PNP	MJ2955	
V_{CBO}	Collector-Base Voltage ($I_E = 0$)		100	V
V_{CER}	Collector-Emitter Voltage ($R_{BE} = 100\Omega$)		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 $T_c \leq 25^\circ\text{C}$		115	W
T_{stg}	Storage Temperature		-65 to 200	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature		200	$^\circ\text{C}$

For PNP types voltage and current values are negative.

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.5	°C/W
-----------------------	----------------------------------	-----	-----	------

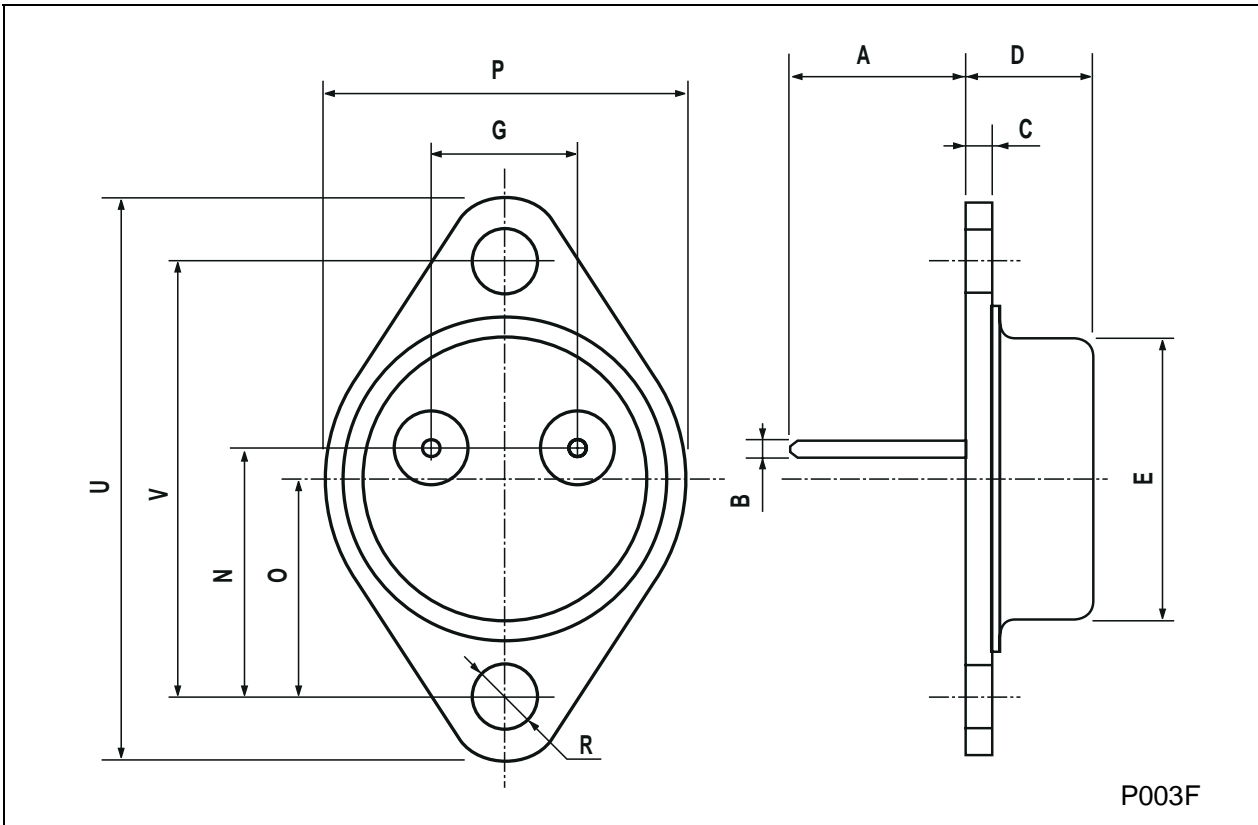
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CEV}	Collector Cut-off Current (V _{BE} = -1.5V)	V _{CE} = 100 V V _{CE} = 100 V T _j = 125 °C			1 5	mA mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 30 V			0.7	mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 7 V			5	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage	I _C = 200 mA	700			V
V _{CER(sus)*}	Collector-Emitter Sustaining Voltage	I _C = 200 mA R _{BE} = 100 Ω	70			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 4 A I _B = 400 mA I _C = 10 A I _B = 3.3 A			1 3	V V
V _{BE*}	Base-Emitter Voltage	I _C = 4 A V _{CE} = 4 A			1.5	V
h _{FE*}	DC Current Gain	I _C = 4 A V _{CE} = 4 A I _C = 10 A V _{CE} = 4 A	20 5		70	
f _T	Transition frequency	I _C = 1 A V _{CE} = 4 A	2.5			MHz
I _{s/b*}	Second Breakdown Collector Current	V _{CE} = 40 V	2.87			A

* Pulsed: Pulse duration = 300 μs, 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	11.00		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



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 1998 STMicroelectronics – Printed in Italy – All Rights Reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Italy - Japan - Korea - Malaysia - Malta - Mexico - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.