

Complementary power transistors

Features

- Low collector-emitter saturation voltage
- Complementary NPN PNP transistors

Applications

- General purpose
- Audio Amplifier

Description

The devices are manufactured in epitaxial-base planar technology and are suitable for audio, power linear and switching applications.

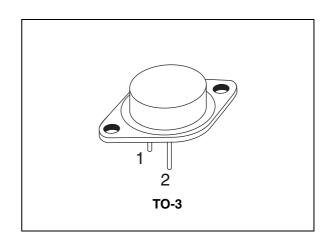


Figure 1. Internal schematic diagram

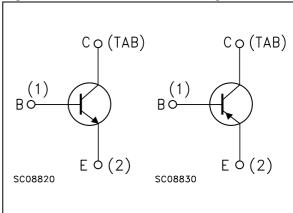


Table 1. Device summary

Order code	Marking	Package	Packaging
2N3055	2N3055	TO-3	trov
MJ2955	MJ2955	10-3	tray

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Absolute maximun rating 2N3055 MJ2955

1 Absolute maximun rating

Table 2. Absolute maximum rating

Symbol	Parameter		Value	Unit
		NPN	2N3055	
		PNP	MJ2955	
V_{CBO}	Collector-emitter voltage (I _E = 0)		100	V
V _{CER}	Collector-emitter voltage (R _{BE} = 100 Ω)		70	V
V _{CEO}	Collector-emitter voltage (I _B = 0)		60	V
V _{EBO}	Collector-base voltage (I _C = 0)		7	V
I _C	Collector current		15	Α
Ι _Β	Base current		7	Α
P _{TOT}	Total dissipation at T _c ⊴25°C		115	W
T _{stg}	Storage temperature		-65 to 200	°C
T _J	Max. operating junction temperature		200	°C

Note: For PNP type voltage and current values are negative

2N3055 MJ2955 Electrical characteristics

2 Electrical characteristics

 $(T_{case} = 25^{\circ}C; unless otherwise specified)$

Table 3. Electrical characteristics

Symbol	Parameter	Test conditions		Min.	Тур.	Max.	Unit
I _{CEX}	Collector cut-off current (V _{BE} = -1.5 V)	V _{CE} = 100 V V _{CE} = 100 V	T _C = 150 °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)} ⁽¹⁾	Collector-emitter sustaining voltage (I _B = 0)	I _C = 200 mA		60			V
V _{CER(sus)} ⁽¹⁾	Collector-emitter sustaining voltage ($R_{BE} = 100 \Omega$)	I _C = 200 mA		70			V
V _{CE(sat)} ⁽¹⁾	Collector-emitter saturation voltage	$I_C = 4 A$ $I_C = 10 A$	$I_B = 400 \text{ mA}$ $I_B = 3.3 \text{ A}$			1 3	V V
V _{BE} ⁽¹⁾	Base-emitter voltage	I _C = 4 A	V _{CE} = 4 V			1.8	٧
h _{FE} ⁽¹⁾	DC current gain	I _C = 4 A I _C = 10 A	V _{CE} = 4 V V _{CE} = 4 V	20 5		70	

^{1.} Pulsed : Pulse duration = 300 μ s, duty cycle \leq 1.5%

Note: For PNP type voltage and current values are negative

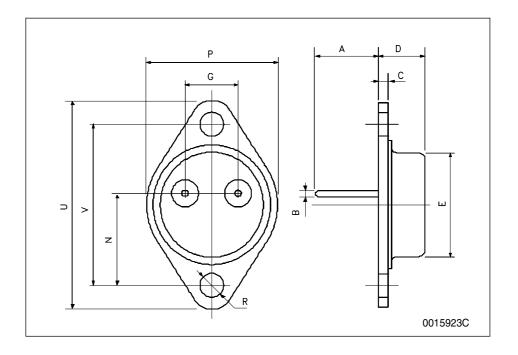
Package mechanical data 2N3055 MJ2955

3 Package mechanical data

In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a Lead-free second level interconnect . The category of second level interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label. ECOPACK is an ST trademark. ECOPACK specifications are available at: www.st.com

TO-3 mechanical data

DIM.	mm.				
DIWI.	min.	typ	max.		
А	11.00		13.10		
В	0.97		1.15		
С	1.50		1.65		
D	8.32		8.92		
E	19.00		20.00		
G	10.70		11.10		
N	16.50		17.20		
Р	25.00		26.00		
R	4.00		4.09		
U	38.50		39.30		
V	30.00		30.30		



Revision history 2N3055 MJ2955

4 Revision history

Table 4. Document revision history

Date	Revision	Changes
11-Oct-1999	6	
29-Jan-2007	7	Content reworked to improve readability, no technical changes

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