

Complementary power transistors

Datasheet - production data

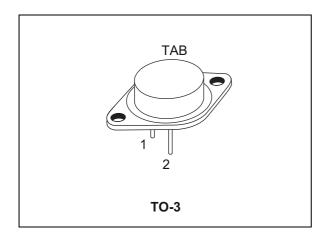
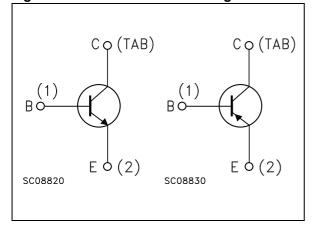


Figure 1. Internal schematic diagram



Features

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

Applications

- · General purpose
- Audio amplifier

Description

The devices are manufactured in planar technology with "base island" layout and are suitable for audio, power linear and switching applications.

Table 1. Device summary

Order code	Marking	Package	Packaging
2N3055	2N3055	TO-3	Tray
MJ2955	MJ2955	10-3	Пау

1 Absolute maximum rating

Table 2. Absolute maximum rating

	Parameter NF		Value	
Symbol			2N3055	Unit
		PNP	MJ2955	
V _{CBO}	Collector-base 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}	Emitter-base voltage (I _C = 0)	7	V	
I _C	Collector current		15	Α
I _B	Base current		7	Α
P _{TOT}	Total dissipation at T _c ≤ 25°C		115	W
Tstg	Storage temperature		-65 to 200	°C
TJ	Max. operating junction temperature	200	°C	

Table 3. Thermal data

Symbol	Parameter	Value	Unit
R _{thj-case}	Thermal resistance junction-case max	1.5	°C/W

Note: For PNP type voltage and current values are negative



2 Electrical characteristics

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

Table 4. Electrical characteristics

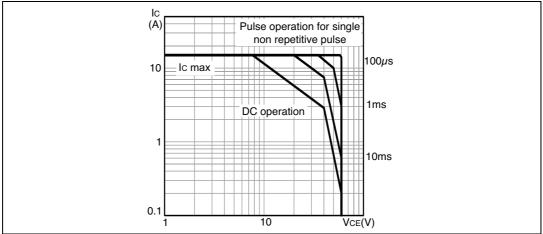
Symbol	Parameter	Test conditions		Min.	Тур.	Max.	Unit
I _{CEX}	Collector cut-off current (V _{BE} = -1.5 V)	V _{CE} = 100 V V _{CE} = 100 V	T _C = 150 °C			1 5	mA mA
I _{CEO}	Collector cut-off current (I _B = 0)	V _{CE} = 30 V				0.7	mA
I _{EBO}	Emitter cut-off current (I _C = 0)	V _{EB} = 7 V				5	mA
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	V
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 µs, duty cycle ≤ 1.5%

Note: For PNP type voltage and current values are negative

2.1 Electrical characteristics (curve)

Figure 2. Safe operating area



3 Package mechanical data

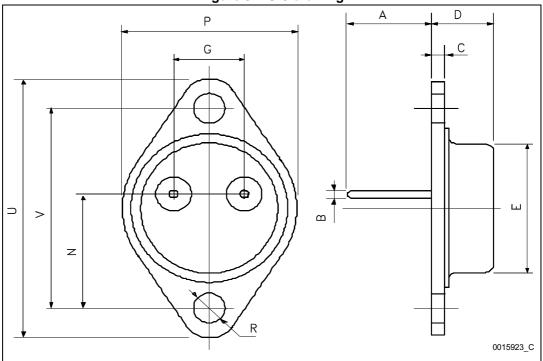
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Table 5. TO-3 mechanical data

Dim	mm			
Dim.	Min.	Тур.	Max.	
Α	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	

Figure 3. TO-3 drawing





Revision history 2N3055, MJ2955

4 Revision history

Table 6. Document revision history

Date	Revision	Changes
11-Oct-1999	6	
29-Jan-2007	7	Content reworked to improve readability, no technical changes
11-Nov-2013	8	Inserted <i>Table 3: Thermal data</i> and <i>Figure 2: Safe operating area</i> . Minor text changes.

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