

**Silicon NPN Power Transistors**

**2SD985 2SD986**

**DESCRIPTION**

- With TO-126 package
- Complement to type 2SB794/795
- DARLINGTON
- High DC current gain
- Low collector saturation voltage

**APPLICATIONS**

- For low frequency power amplifier and power switching applications

**PINNING**

PIN	DESCRIPTION
1	Emitter
2	Collector;connected to mounting base
3	Base

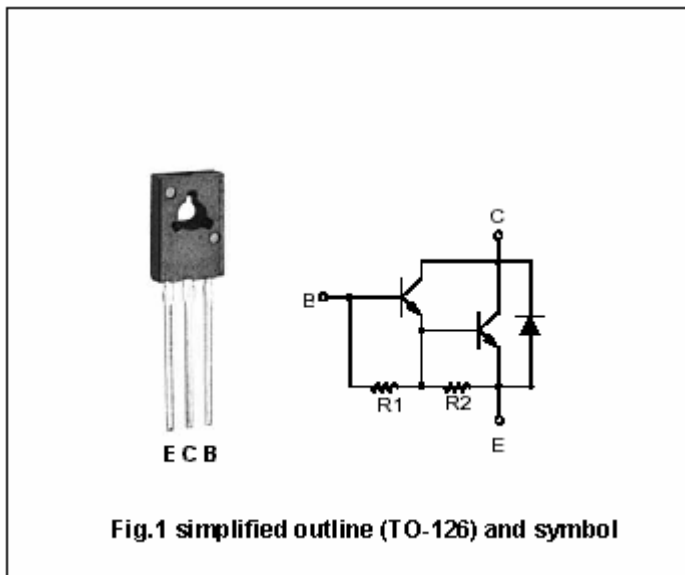


Fig.1 simplified outline (TO-126) and symbol

**Absolute maximum ratings (Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	150	V
$V_{CEO}$	Collector-emitter voltage	2SD985	60	V
		2SD986	80	
$V_{EBO}$	Emitter -base voltage	Open collector	8	V
$I_C$	Collector current		$\pm 1.5$	A
$I_{CM}$	Collector current-Peak		$\pm 3.0$	A
$I_B$	Base current		0.15	A
$P_T$	Total power dissipation	$T_a=25^\circ C$	1.0	W
		$T_C=25^\circ C$	10	
$T_j$	Junction temperature		150	$^\circ C$
$T_{stg}$	Storage temperature		-55~150	$^\circ C$

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## 2SD985 2SD986

## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1.0A; I <sub>B</sub> =1.0mA			1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =1.0A; I <sub>B</sub> =1.0mA			2.0	V
I <sub>CBO</sub>	Collector cut-off current	2SD985			10	μ A
		2SD986				
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			2.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.5A; V <sub>CE</sub> =2V	1000			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =1.0A; V <sub>CE</sub> =2V	2000		30000	

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =1.0A; I <sub>B1</sub> =-I <sub>B2</sub> =1.0mA V <sub>CC</sub> =50V; R <sub>L</sub> =50 Ω		0.5		μ s
t <sub>s</sub>	Storage time			1.0		μ s
t <sub>f</sub>	Fall time			1.0		μ s

◆ h<sub>FE-2</sub> Classifications

M	L	K
2000-5000	4000-10000	8000-30000

PACKAGE OUTLINE

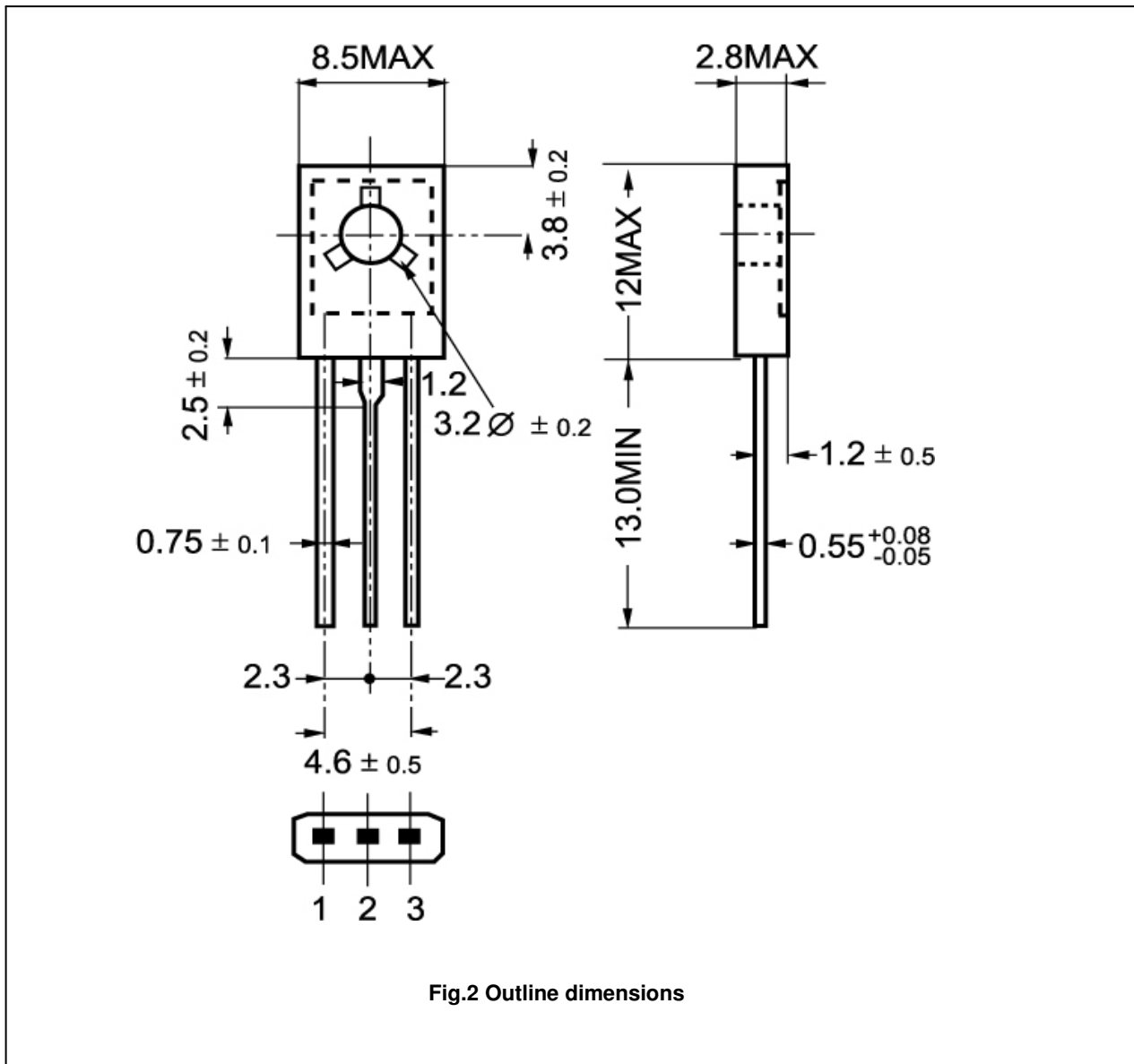


Fig.2 Outline dimensions