

NPN Epitaxial Silicon Transistor

1 Description

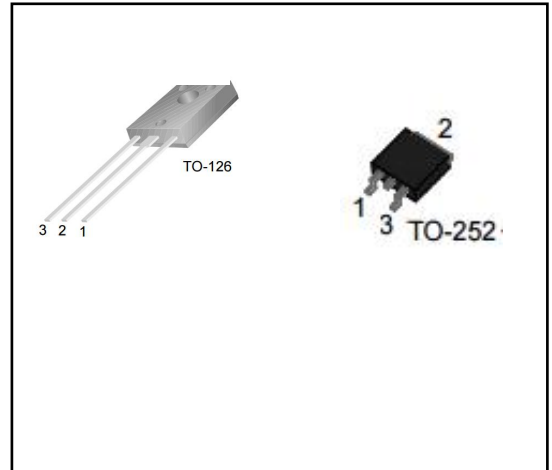
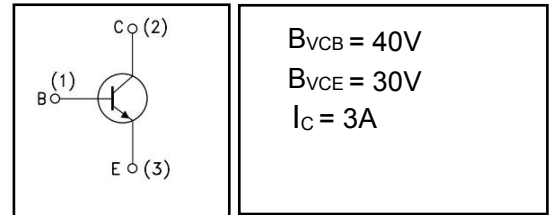
The 2SD882 is a medium power low voltage transistor

2 Features

- High current output up to 3A
- Low saturation voltage
- Complement to 2SB772

3 Applications

- audio power amplifier,
- DC-DC converter
- voltage regulator.



4 Electrical Characteristics

4.1 Absolute Maximum Ratings (Tc=25°C, unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	3	A
*Collector Current (Pulse)	I_{CP}	7	A
Base Current (DC)	I_B	0.6	A
Collector Dissipation (TC=25°C)	P_C	10	W
Collector Dissipation (Ta=25°C)		1	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	- 55 ~ 150	°C

* PW≤10ms, Duty Cycle≤50%

4.2 Thermal Characteristics

PARAMETER	SYMBOL	VALUE		UNIT
		TO-126	TO-252/251	
Thermal Resistance, Junction to Case-sink	R_{thJC}	10	10	°C/W

4.3 Electrical Characteristics (Tc=25°C, unless otherwise noted)

SYMBOL	PARAMETER	Test Conditions	Min	Typ	Max	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} =40V	-	-	10	uA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} =30V	-	-	50	uA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} =5V	-	-	10	uA
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C =10mA	30	58	-	V
V _{(BR)CBO}	Collector-Base Breakdown Voltage (I _E = 0)	I _C =100uA	40	-	-	V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E =100uA	5	11.5	-	V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C =1A I _B =50mA	-	0.23	0.4	V
		I _C =2A I _B =100mA	-	0.35	0.7	
		I _C =3A I _B =150mA	-	0.5	1.2	
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =2A I _B =200mA	-	1.05	1.8	
h _{FE}	DC Current Gain	I _C =100mA, V _{CE} =2V	100	-	400	
		I _C =1A, V _{CE} =2 V	100	250	350	
		I _C =3A, V _{CE} =2 V	50	-	300	
		I _C =0.5A, V _{CE} =5 V*	150	270	350	
f _T	Transition Frequency	V _{CE} =5V, I _C =100mA, f=10MHZ	-	100	-	MHz

h_{FE}* Classification

Classification	1	2	3	4	5
h _{FE} *	170-210	210-230	230-260	260-290	290-320

5 Typical characteristics diagrams

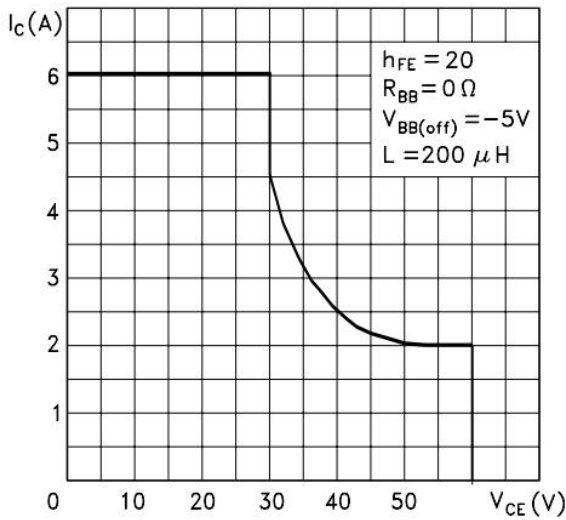


Figure 1. Reverse biased safe operating area

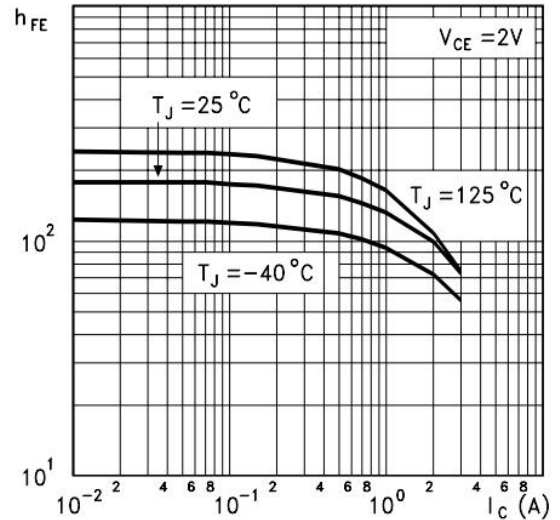


Figure 2. DC current gain

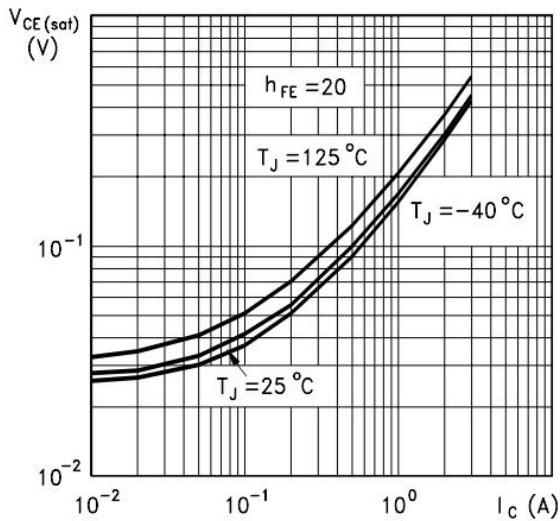


Figure 3. Collector-emitter saturation voltage

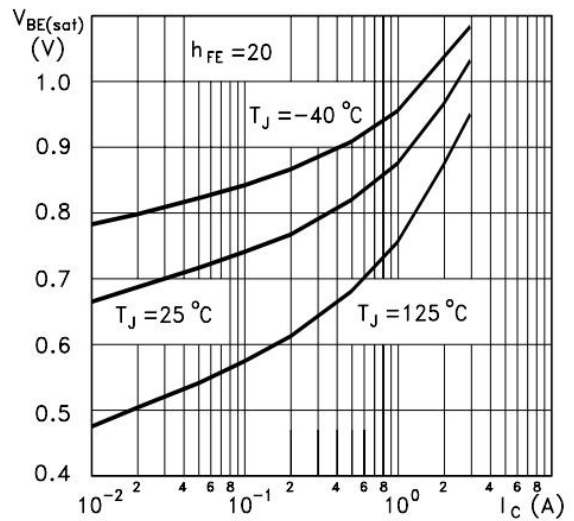


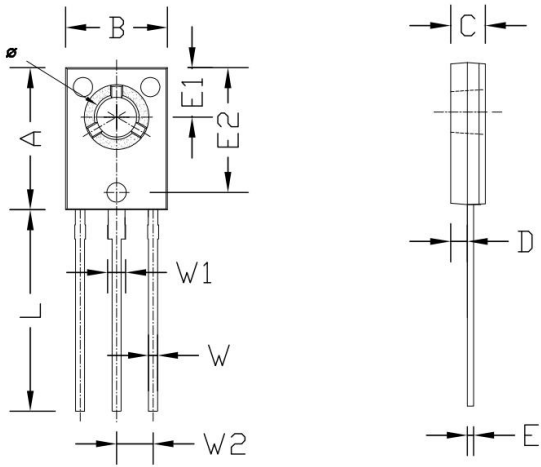
Figure 4. Base-emitter saturation voltage

6 Product Specifications and Packaging Models

Product Model	Package Type	Mark Name	RoHS	Package	Quantity
2SD882	TO-126	D882	Pb-free	bag	200/bag
2SD882	TO-252	D882	Pb-free	Compiling belt	3000/disc
2SD882	TO-251	D882	Pb-free	tube	3000/box

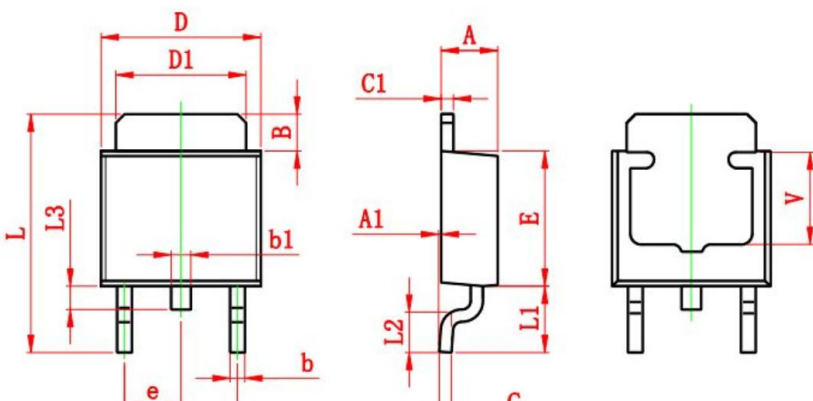
7 Dimensions

TO-126 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	min.	max.	min.	max.
A	10.50	11.10	0.413	0.437
B	7.65	7.95	0.301	0.313
C	2.50	2.80	0.098	0.110
D	1.45	1.75	0.057	0.069
E	0.40	0.60	0.016	0.024
E1	3.65	3.85	0.144	0.152
E2	9.40	9.60	0.370	0.378
L	15.4	15.9	0.606	0.626
W	0.60	0.80	0.024	0.031
W1	1.20	1.30	0.047	0.051
W2	2.32 TYP		0.091 TYP	
Φ	3.05	3.35	0.120	0.132

TO-252 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	9.500	9.900	0.374	0.390

8 Attentions

- Jiangsu Donghai Semiconductor Technology Co., Ltd. reserves the right to change the specification without prior notice! The customer should obtain the latest version of the information before making the order and verify that the information is complete and up to date.
- It is the responsibility of the purchaser for any failure or failure of any semiconductor product under certain conditions. It is the responsibility of the purchaser to comply with safety standards and to take safety measures in the system design and machine manufacturing of WXDH products in order to avoid potential risk of failure. Injury or property damage.
- Product promotion is endless, our company will be dedicated to provide customers with better products.

9 Appendix

Revision history:

Date	REV.	Description	Page
2017.04.11	1.0	Original	