High-gain Amplifier Transistor (–32V, –0.3A) 2SB852K

Features

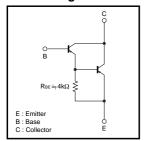
- 1) Darlington connection for high DC current gain.
- 2) Built-in $4k\Omega$ resistor between base and emitter.
- 3) Complements the 2SD1383K.

Packaging specifications

Туре	2SB852K		
Package	SMT3		
hFE	В		
Marking	U*		
Code	T146		
Basic ordering unit (pieces)	3000		

* Denotes hre

Circuit diagram



Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	Vсво	Vсво —40		
Collector-emitter voltage	VCES	Vces -32		
Emitter-base voltage	Vebo	-6	V	
Collector current	lc	-0.3	Α	
Collector power dissipation	Pc	0.2	W	
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	-55 to +150	°C	
<u> </u>	- 5		-	

* R_{BE}=0Ω

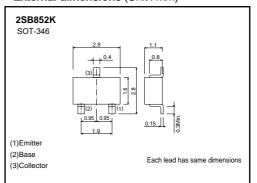
•Electrical characteristics (Ta=25°C)

Symbol	Min.	Тур.	Max.	Unit	Conditions
ВУсво	-40	-	-	V	Ic=-100μA
BVCES	-32	-	_	V	Ic=-1mA
ВVево	-6	-	_	V	Iε=-100μA
Ісво	-	-	-1	μA	Vcb=-24V
Іево	-	-	-1	μA	VEB=-4.5V
hfe	5000	-	-	-	Vce=-5V, Ic=-0.1A
VCE(sat)	-	-	-1.5	V	Ic= -200mA, Iв= -0.4mA *1
f⊤	-	200	_	MHz	Vce=-5V, Ie=10mA, f=100MHz *2
Cob	-	3	-	pF	Vcb=-10V, IE=0A, f=1MHz
	BVCBO BVCES BVEBO ICBO IEBO hFE VCE(sat) fr	ВVсво –40 ВVсво –32 ВVево –6 Ісво – Іево – hre 5000 Vce(sat) – fr –	BVCBO -40 - BVCES -32 - BVEBO -6 - ICBO - - IEBO - - hFE 5000 - VCE(sat) - - fr - 200	BVCBO -40 - - BVCES -32 - - BVEBO -6 - - ICBO - - - IEBO - - - hFE 5000 - - VCE(sat) - - -1.5 fr - 200 -	BVCBO -40 - - V BVCES -32 - - V BVEBO -6 - - V ICBO - - -1 μA IEBO - - -1 μA hFE 5000 - - - VCE(sat) - - -1.5 V fr - 200 - MHz

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*1 Measured using pulse current. *2 Transition frequency of the device.

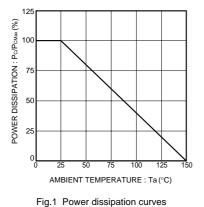




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Transistors

Electrical characteristic curves



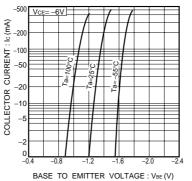
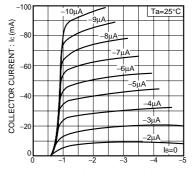


Fig.2 Ground emitter propagation characteristisc



COLLECTOR TO EMITTER VOLTAGE : VCE (V)

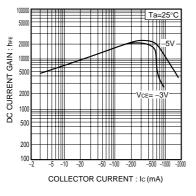
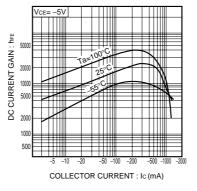
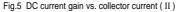
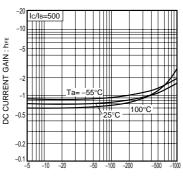


Fig.4 DC current gain vs. collector current (I)



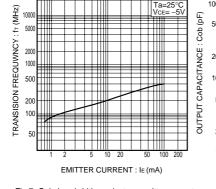


ı a=25°C f=1MHz IE=0A



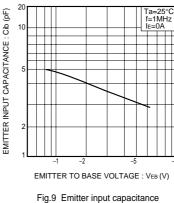
COLLECTOR CURRENT : Ic (mA)

Fig.6 Collector-emitter saturation voltage vs. collector current



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Fig.7 Gain bandwidth product vs. emitter current



vs. emitter-base voltage

COLLECTOR TO BASE VOLTAGE : VCB (V)

vs. collector-base voltage

Fig.8 Collector output capacitance

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Fig.3 Ground emitter output characteristics

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