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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China







Power Transistor (-100V, -2A) 2SB1316

Features

- 1) Darlington connection for high DC current gain.
- 2) Built-in resistor between base and emitter.
- 3) Built-in damper diode.
- 4) Complements the 2SD2195 / 2SD1980.

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

Parameter		Symbol	Limits	Unit		
Collector-base voltage		Vcво	-100	V		
Collector-emitter voltage		Vceo	-100	V		
Emitter-base voltage		VEBO	-8	V		
Collector current		Ic	-2	A(DC)		
		li lic	-3	A(Pulse) *1		
Collector power dissipation	2SB1580		2	W *2		
	2SB1316	Pc	1	VV *2		
			10	W(Tc=25°C)		
Junction temperature		Tj	150	°C		
Storage temperature		Tstg	-55 to +150	°C		

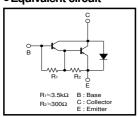
^{*1} Single pulse Pw=100ms *2 When mounted on a 40 x 40 x 0.7 mm ceramic board

● Packaging specifications and hFE

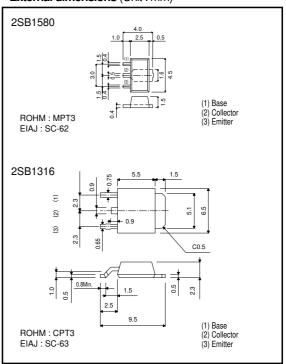
Туре	2SB1580	2SB1316
Package	MPT3	CPT3
hfE	1k to 10k	1k to 10k
Marking	BN∗	_
Code	T100	TL
Basic ordering unit (pieces)	1000	2500

^{*} Denotes hre

●Equivalent circuit



●External dimensions (Unit : mm)



●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Collector-base breakdown voltage	ВУсво	-100	-	-	V	$I_C = -50\mu A$	
Collector-emitter breakdown voltage	BVceo	-100	-	-	V	Ic=-5mA	
Emitter-base breakdown voltage	BVEBO	-10	-	-	V	I _E = -5mA	
Collector cutoff current	Ісво	-	-	-10	μΑ	VcB = -100V	
Emitter cutoff current	Іево	-	-	-3	mA	V _{EB} = -7V	
Collector-emitter saturation voltage	V _{CE(sat)}	_	-	-1.5	V	Ic/I _B = -1A/-1mA	*
DC current transfer ratio	hfe	1000	-	10000	-	Vc= -2V , Ic = -1A	*
Transition frequency	f⊤	-	50	-	MHz	Vce = -5V , Ie =0.1A , f = 30MHz	
Output capacitance	Cob	-	35	-	pF	$V_{CB} = -10V$, $I_E = 0A$, $f = 1MHz$	

^{*}Measured using pulse current.



•Electrical characteristics curve

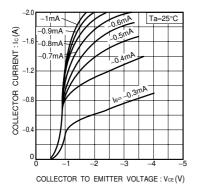


Fig.1 Grounded emitter output characteristics

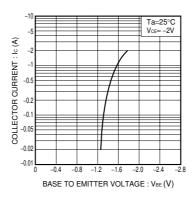


Fig.2 Grounded emitter propagation characteristics

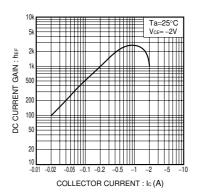


Fig.3 DC current gain vs. collector current

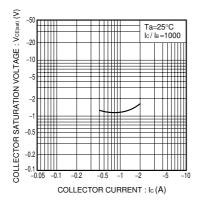


Fig.4 Collector-emitter saturation voltage vs. collector current

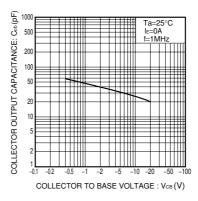
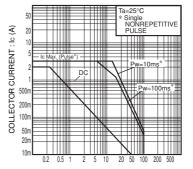
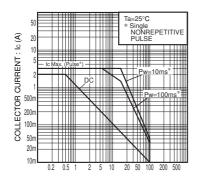


Fig.5 Collector output capacitance vs. collector-base voltage



COLLECTOR TO EMITTER VOLTAGE: VcE (V)

Fig.6 Safe Operating area (2SB1580)



COLLECTOR TO EMITTER VOLTAGE : $V_{\text{CE}}\left(V\right)$

Fig.7 Safe Operating area (2SB1316)

Notes

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