Ordering number:EN2516

PNP/NPN Epitaxial Planar Silicon Transistors

2SB1295/2SD1935

Low-Frequency General-Purpose Amplifier Applications

Applications

· AF power amplifier, medium-speed switching, small-sized motor drivers.

Features

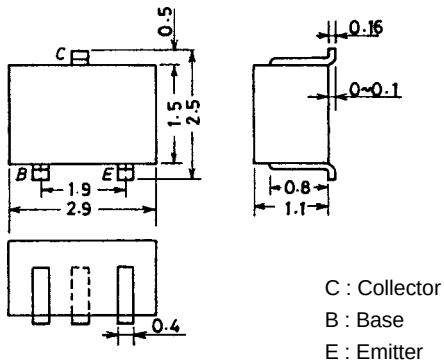
· Large current capacity.
· Low collector to emitter saturation voltage.
· Very small-sized package permitting sets to be made smaller and slimer.

Package Dimensions

unit:mm

2018A

[2SB1295/2SD1935]



C : Collector
B : Base
E : Emitter
SANYO : CP

( ) : 2SB1295

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)15	V
Collector-to-Emitter Voltage	V_{CEO}		(–)15	V
Emitter-to-Base Voltage	V_{EBO}		(–)5	V
Collector Current	I_C		(–)0.8	A
Collector Current (Pulse)	I_{CP}		(–)3	A
Collector Dissipation	P_C		200	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)12V, I_E=0			(–)100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)4V, I_C=0			(–)100	nA
DC Current Gain	$h_{FE}1$	V_{CE}=(–)2V, I_C=(–)50mA	135*		900*	
					(600)	
	$h_{FE}2$	V_{CE}=(–)2V, I_C=(–)800mA	80			

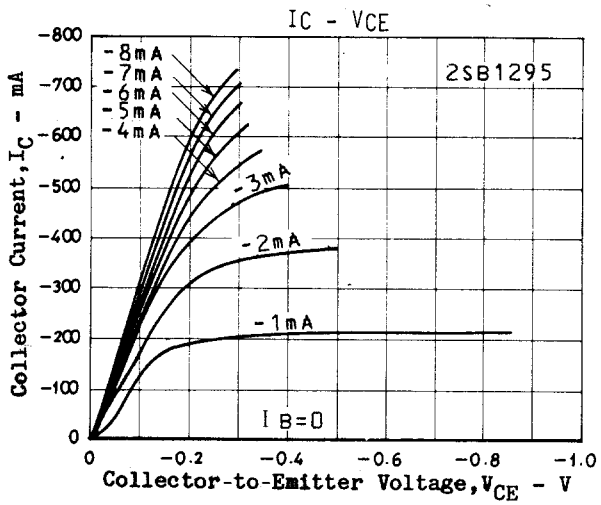
* : The 2SB1295/2SD1935 are classified by 50mA h_{FE} as follows :

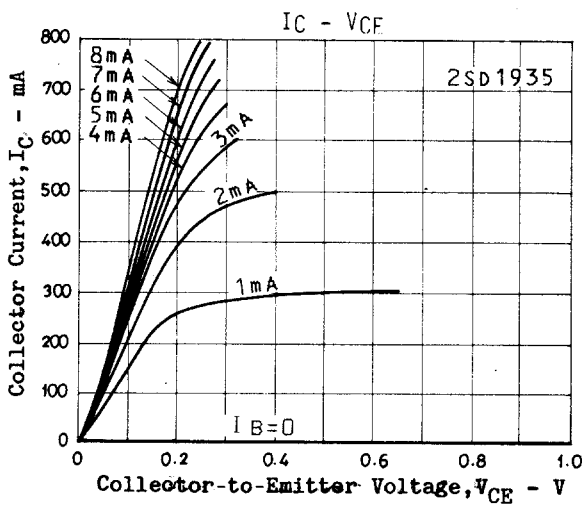
2SB1295	135	5	270	200	6	400	300	7	600			
2SB1935	135	5	270	200	6	400	300	7	600	450	8	900

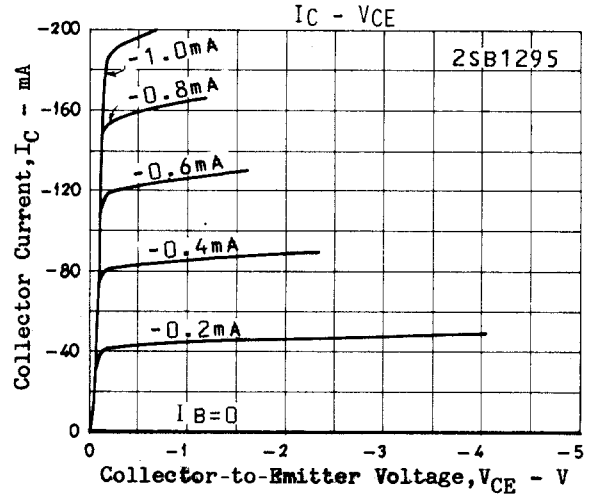
Marking: 2SB1295 : UL/2SD1935 : CT
h_{FE} rank: 2SB1295 : 5, 6, 7/2SD1935 : 5, 6, 7, 8

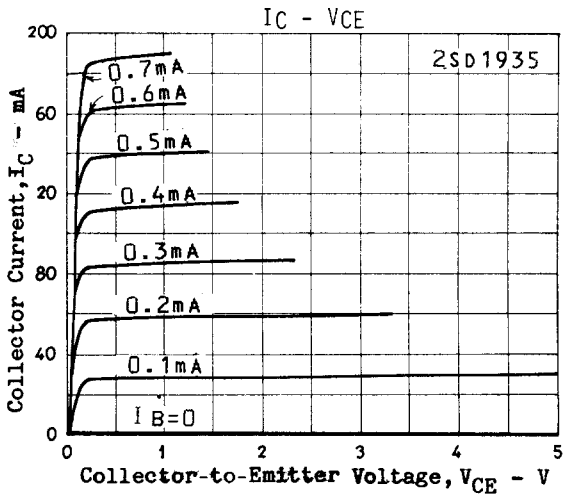
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

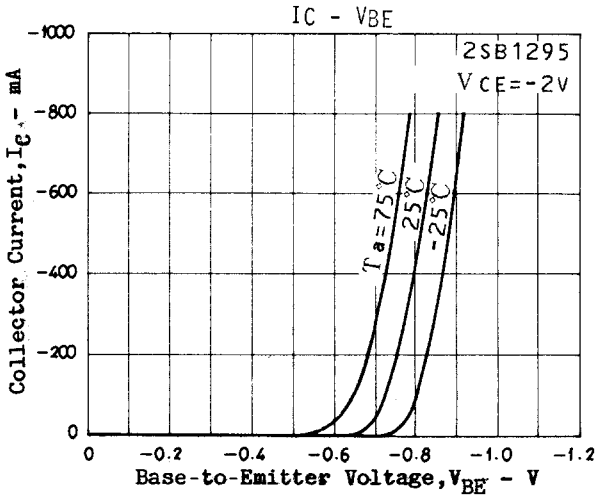
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	V_{CE}=(–)2V, I_C=(–)50mA		200		MHz
				(300)		MHz
Output Capacitance	C_{ob}	V_{CB}=(–)10V, f=1MHz		(15)		pF
				10		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}1$	I_C=(–)5mA, I_B=(–)0.5mA		(–)10	(–)25	mV
	$V_{CE(sat)}2$	I_C=(–)400mA, I_B=(–)20mA		(–)100	(–)200	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)400mA, I_B=(–)20mA		(–)0.9	(–)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)10μA, I_C=0	(–)5			V

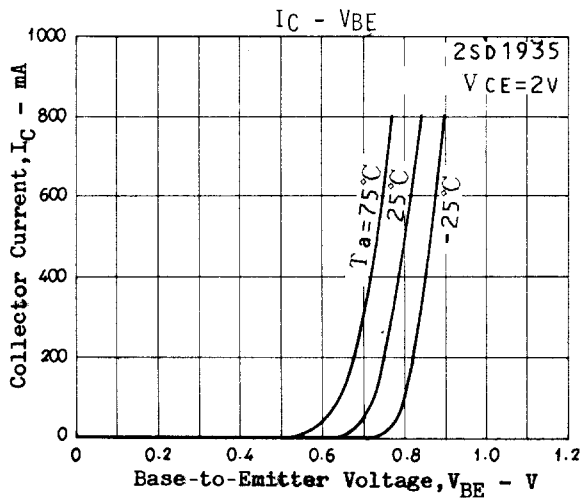


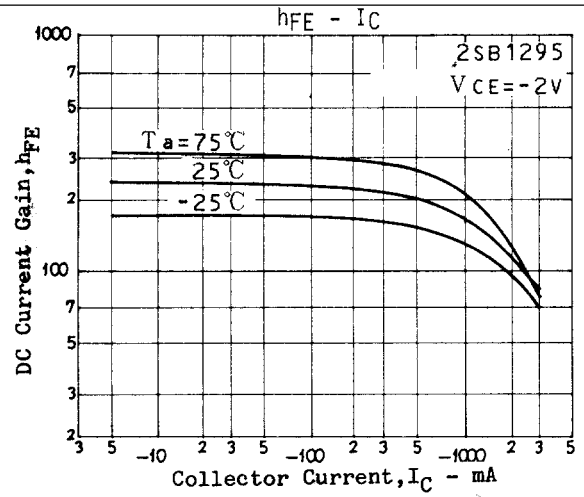


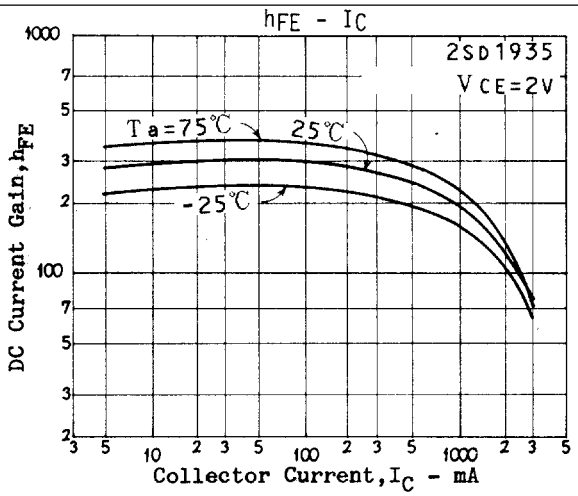


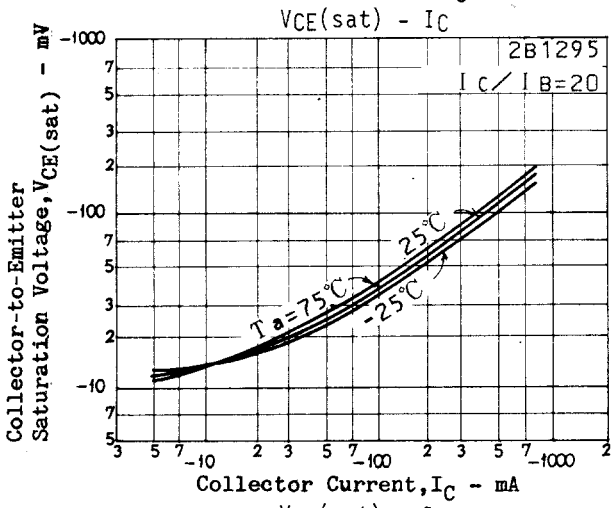


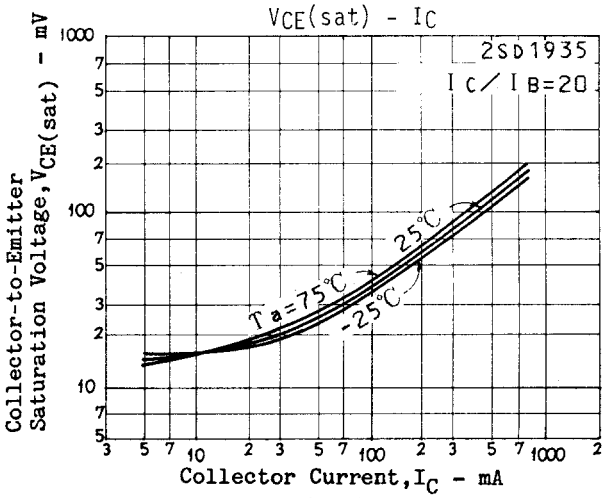


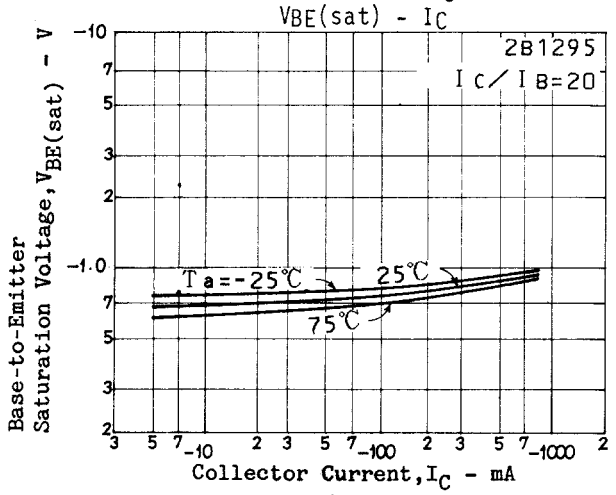


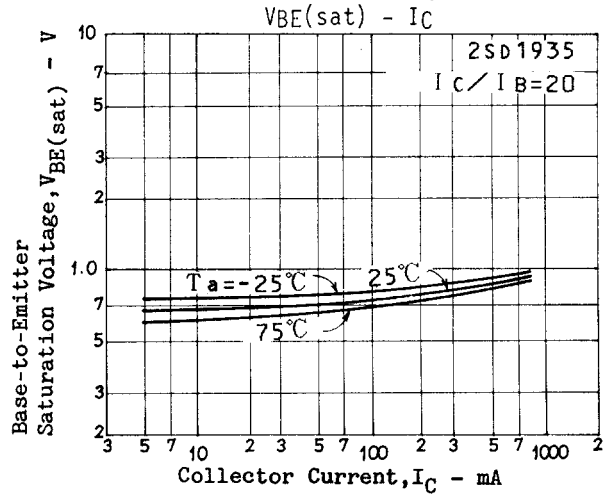

hFE - IC
2SB1295
VCE=-2V
Ta=75℃
25℃
-25℃
DC Current Gain, hFE
Collector Current, IC - mA

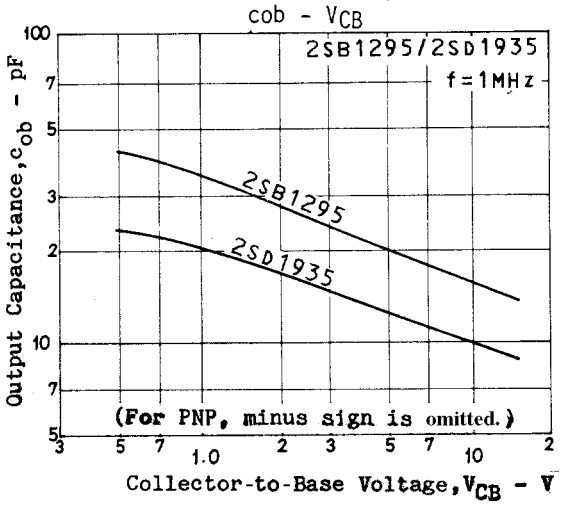

hFE - IC
2SD1935
VCE=2V
Ta=75℃
25℃
-25℃
DC Current Gain, hFE
Collector Current, IC - mA

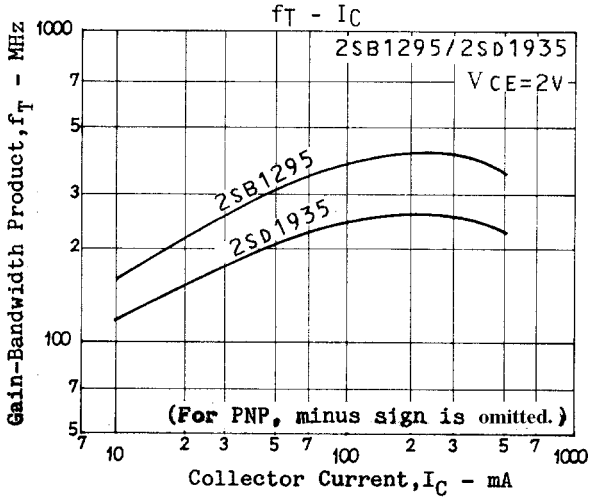

VCE(sat) - IC
2B1295
IC/IB=20
Ta=75℃
25℃
-25℃
Collector-to-Emitter Saturation Voltage, VCE(sat) - mV
Collector Current, IC - mA


VCE(sat) - IC
2SD1935
IC/IB=20
Ta=75℃
25℃
-25℃
Collector-to-Emitter Saturation Voltage, VCE(sat) - mV
Collector Current, IC - mA


VBE(sat) - IC
2B1295
IC/IB=20
Ta=-25℃
25℃
75℃
Base-to-Emitter Saturation Voltage, VBE(sat) - V
Collector Current, IC - mA


VBE(sat) - IC
2SD1935
IC/IB=20
Ta=-25℃
25℃
75℃
Base-to-Emitter Saturation Voltage, VBE(sat) - V
Collector Current, IC - mA


cob - VCB
2SB1295/2SD1935
f=1MHz
2SB1295
2SD1935
(For PNP, minus sign is omitted.)
Output Capacitance, cob - pF
Collector-to-Base Voltage, VCB - V


fT - IC
2SB1295/2SD1935
VCE=2V
2SB1295
2SD1935
(For PNP, minus sign is omitted.)
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - mA