Ordering number:ENN2468

PNP/NPN Epitaxial Planar Silicon Transistors

2SB1296/2SD1936

AF Amplifier Applications

Applications

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

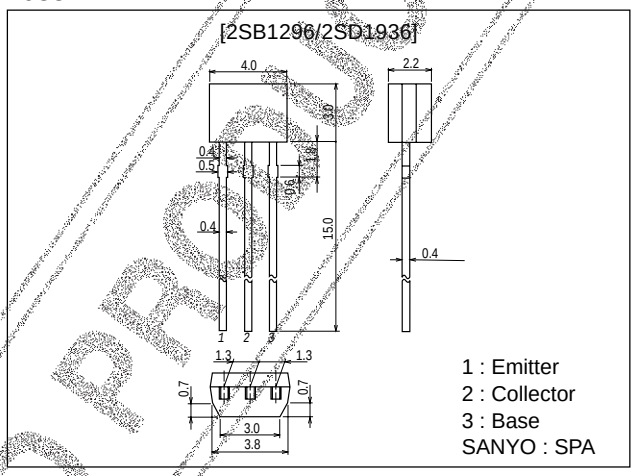
Features

Large current capacity.
Low collector to emitter saturation voltage.
Wide ASO.

Package Dimensions

unit:mm

2033A



( ) : 2SB1296

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		300	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	140*		(560)*	
					800*	
	$h_{FE}2$	V_{CE}=(–)2V, I_C=(–)800mA	80			

* : The 2SB1296/2SD1936 are classified by 50mA h_{FE} as follows :

Continued on next page.

2SB1296

Rank	S	T	U
h_{FE}	140 to 280	200 to 400	280 to 560

2SB1936

Rank	S	T	U	V
h_{FE}	140 to 280	200 to 400	280 to 560	400 to 800

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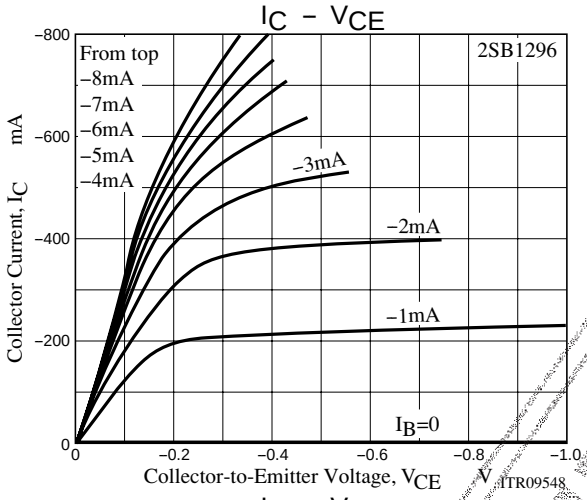
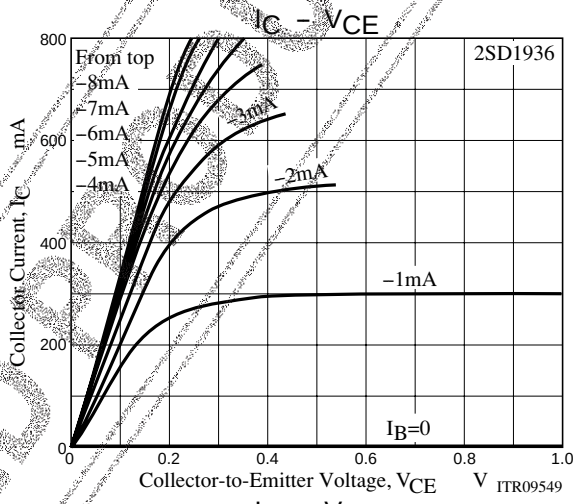
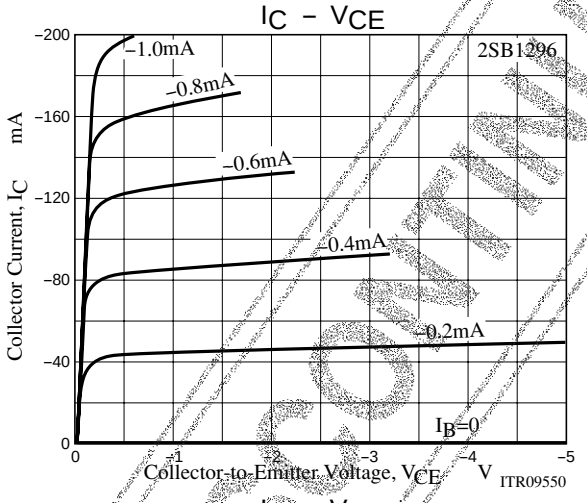
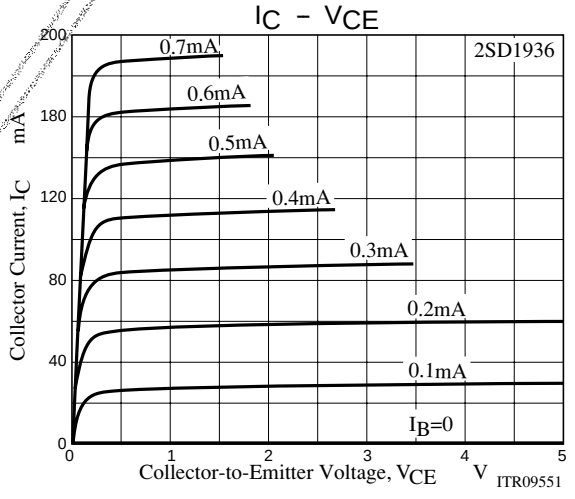
Continued from preceding page.

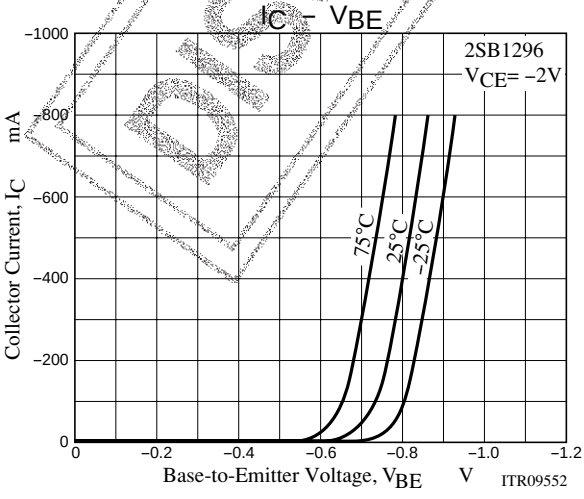
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	V_{CE}=(–)2V, I_C=(–)50mA		(300)		MHz
				200		MHz
Output Capacitance	C_{ob}	V_{CB}=(–)10V, f=1MHz		(15)		pF
				10		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}1$	I_C=(–)5mA, I_B=(–)0.5mA		(–)10	(–)25	mV
	$V_{CE(sat)}2$	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

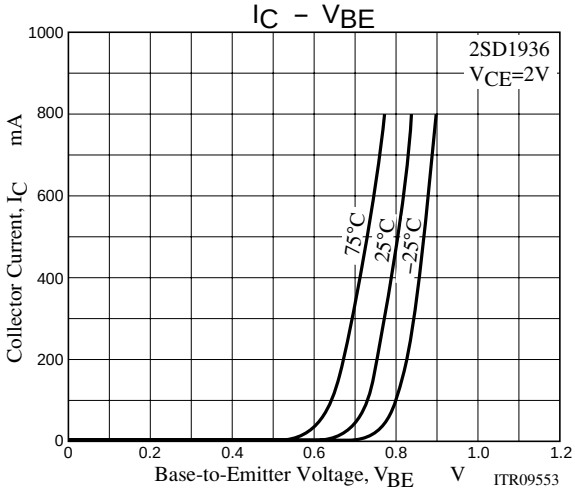




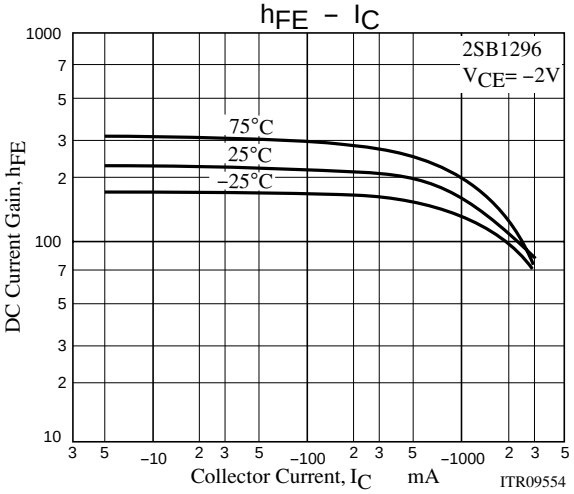




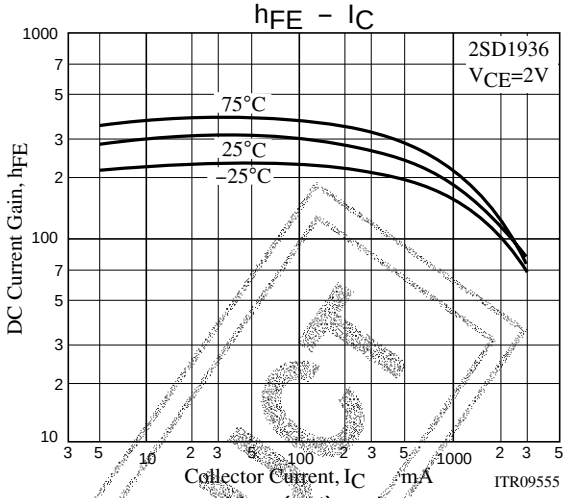




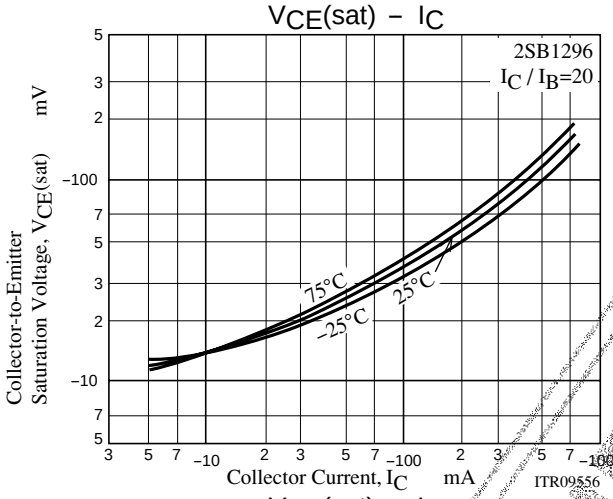
h_{FE} – I_C



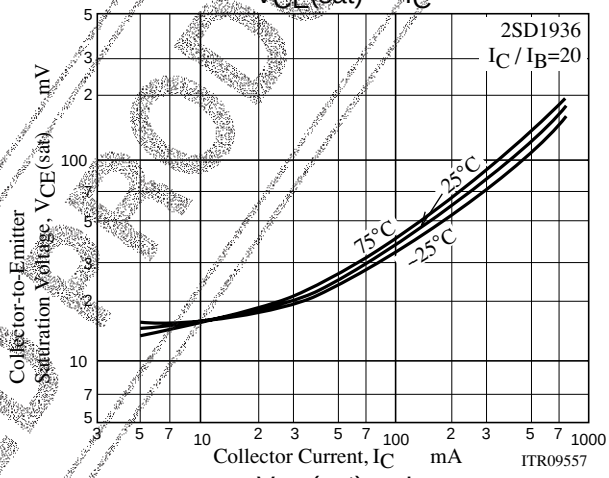
h_{FE} – I_C



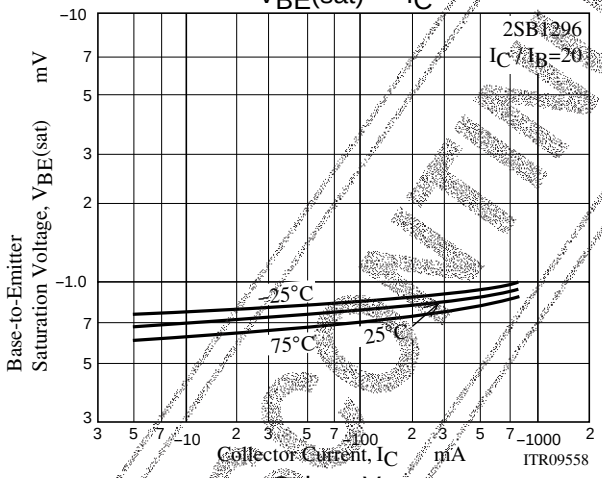
V_{CE}(sat) – I_C



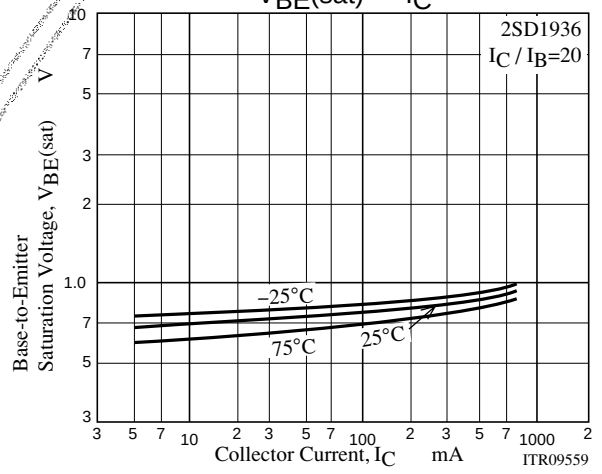
V_{CE}(sat) – I_C



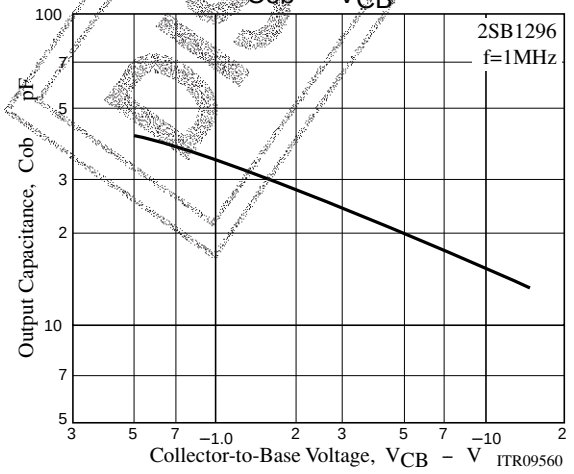
V_{BE}(sat) – I_C



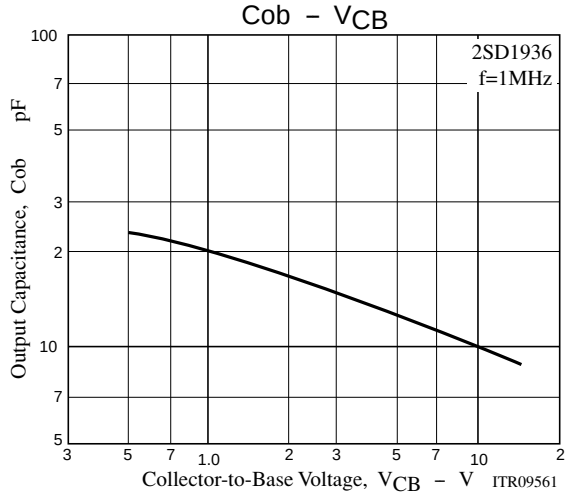
V_{BE}(sat) – I_C

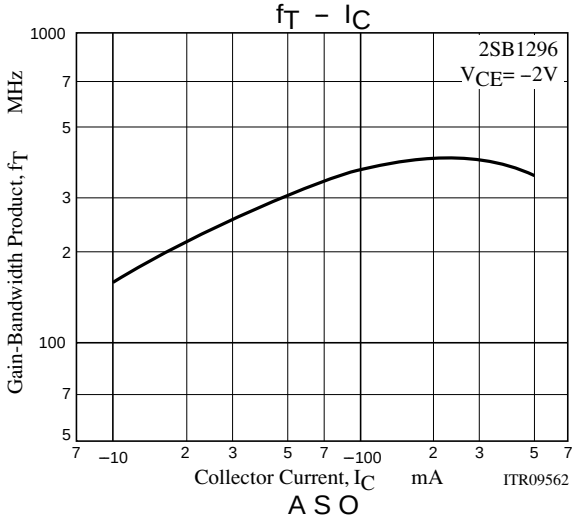


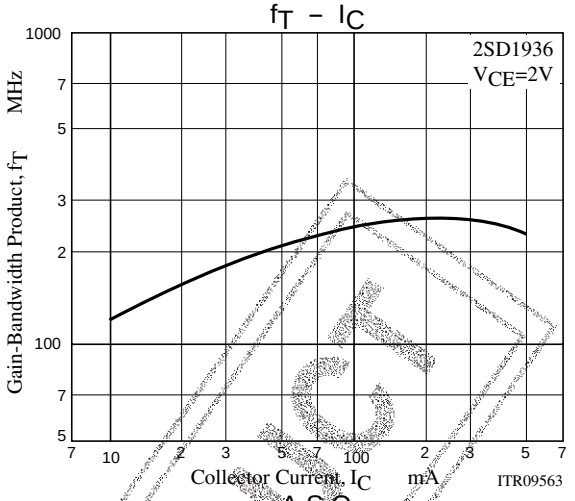
Cob – V_{CB}

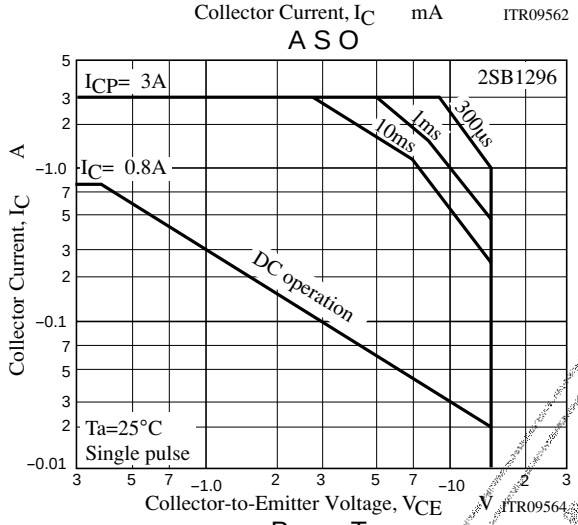


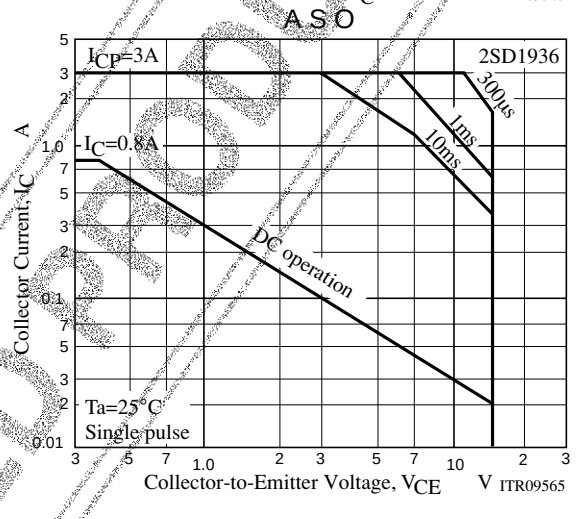
Cob – V_{CB}

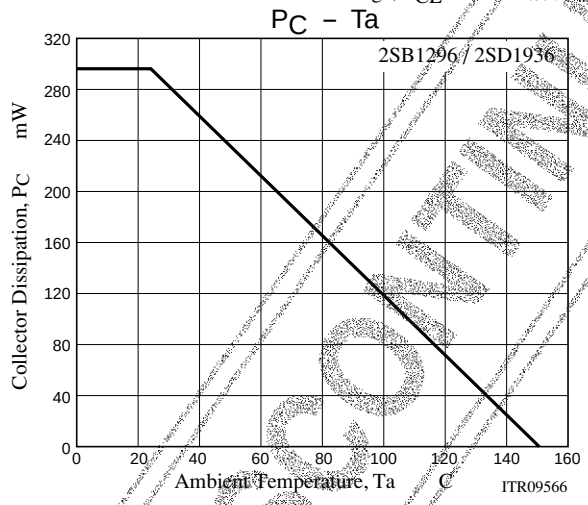












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