



## 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.

( ) : 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	$T_J$		$150$	°C
Storage Temperature	$T_{stg}$		$-55$ 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	$h_{FE1}$	$V_{CE}=(-)2V, I_C=(-)50mA$	$140^*$		$(560)^*$	
	$h_{FE2}$	$V_{CE}=(-)2V, I_C=(-)800mA$	$80$		$800^*$	

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

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

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

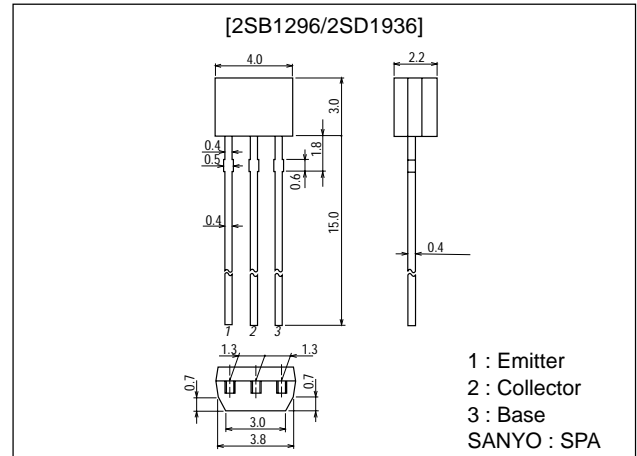
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#### Package Dimensions

unit:mm

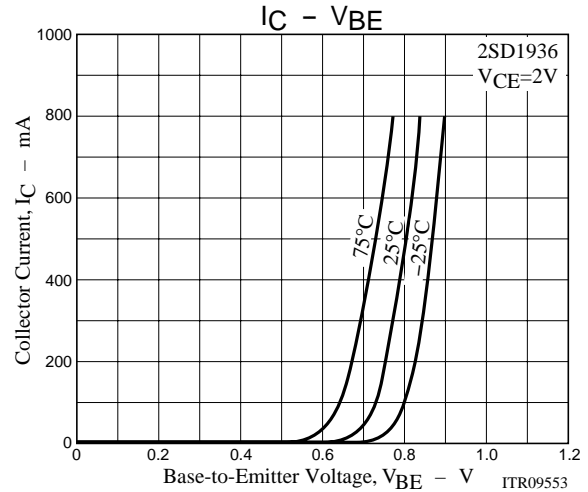
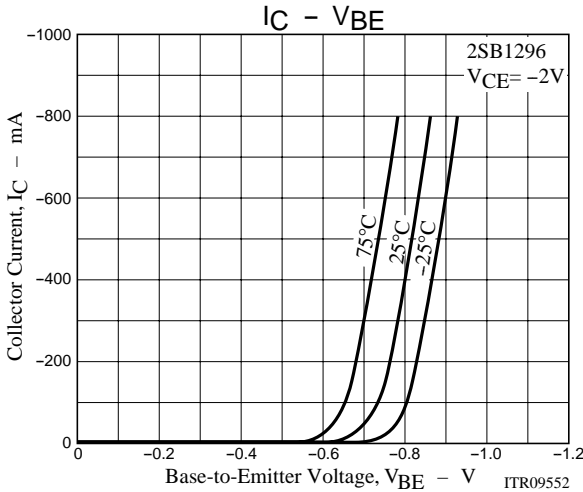
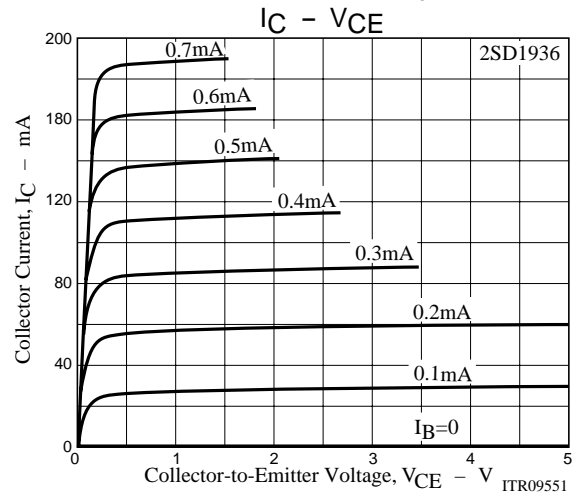
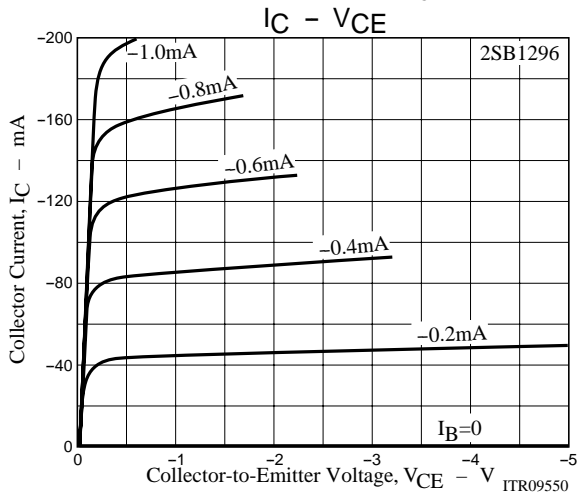
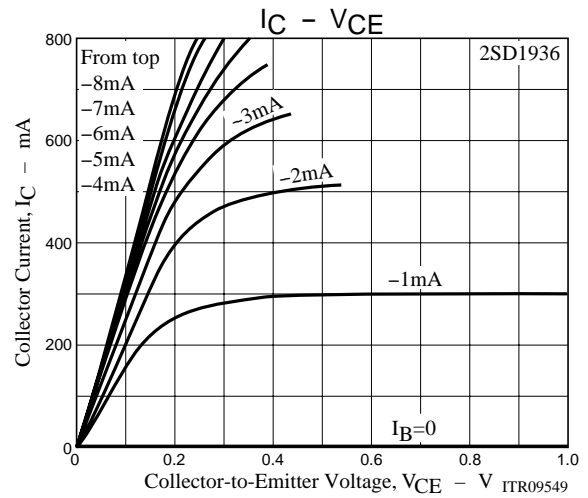
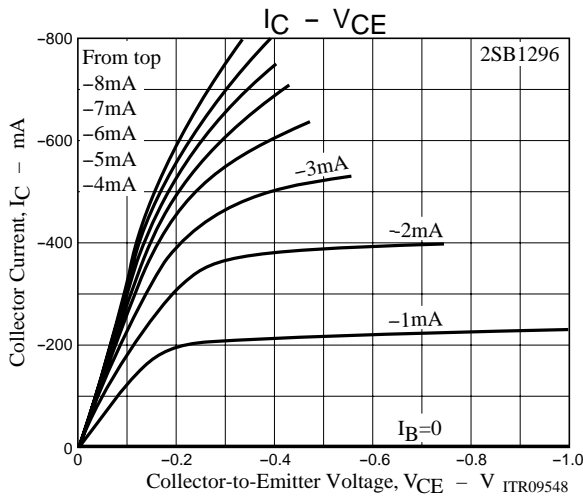
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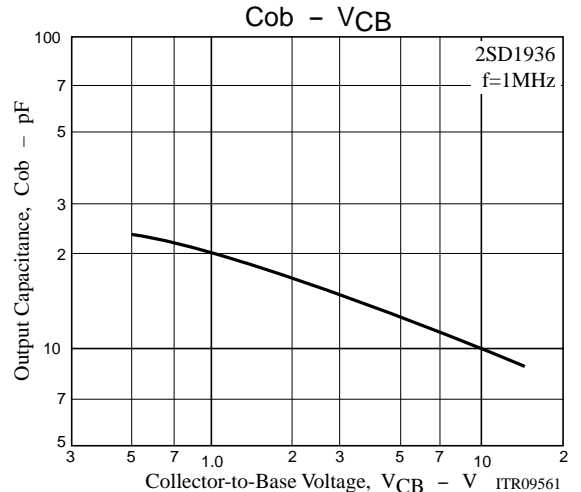
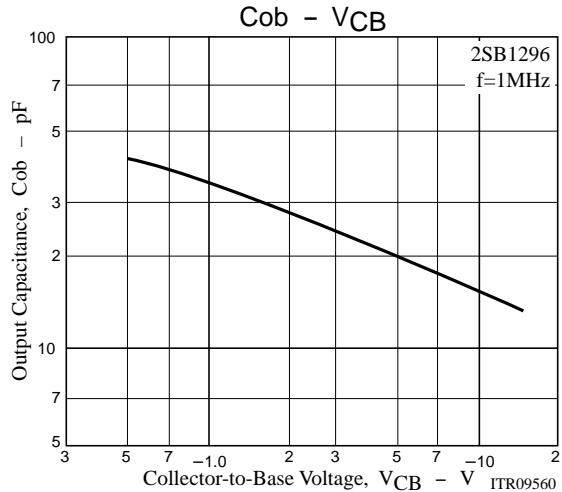
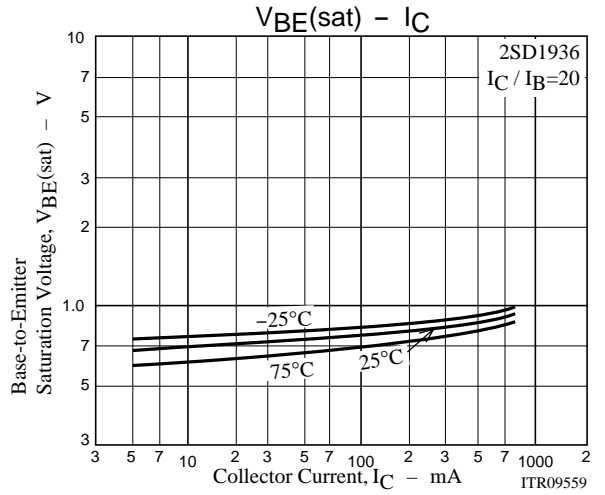
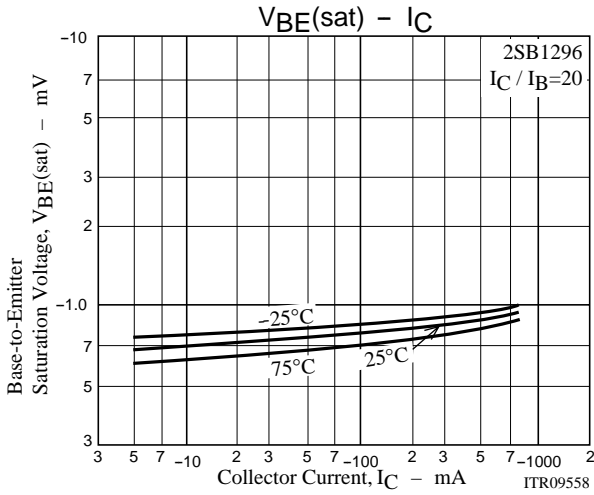
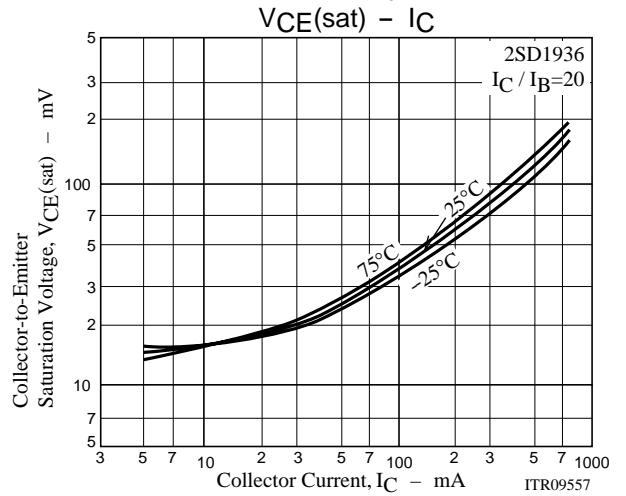
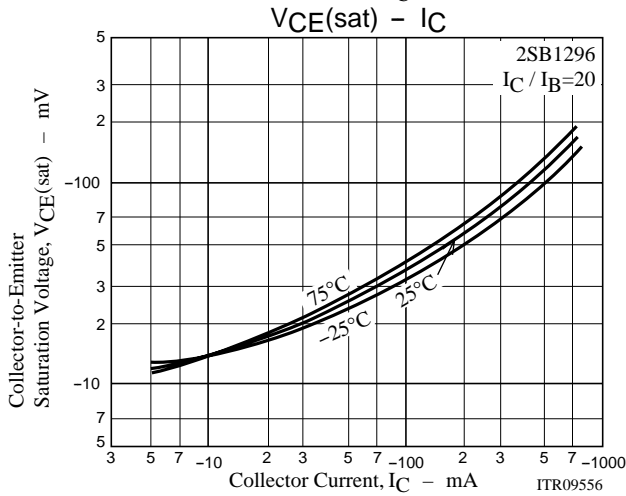
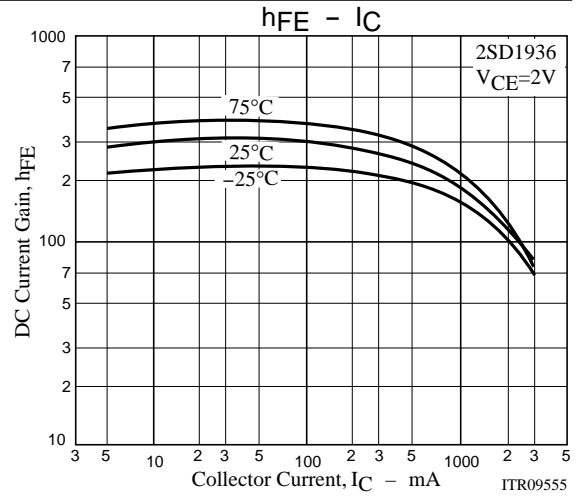
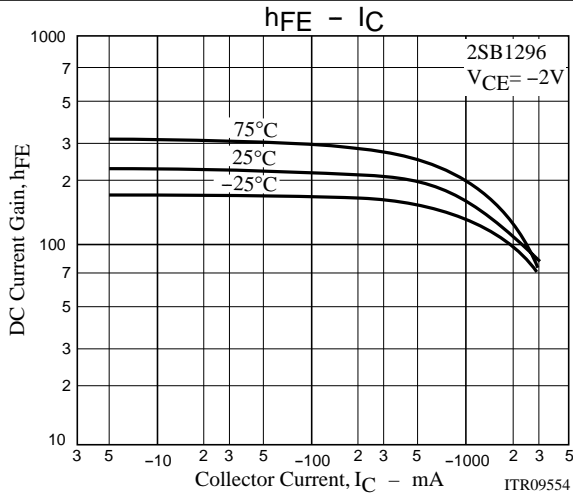
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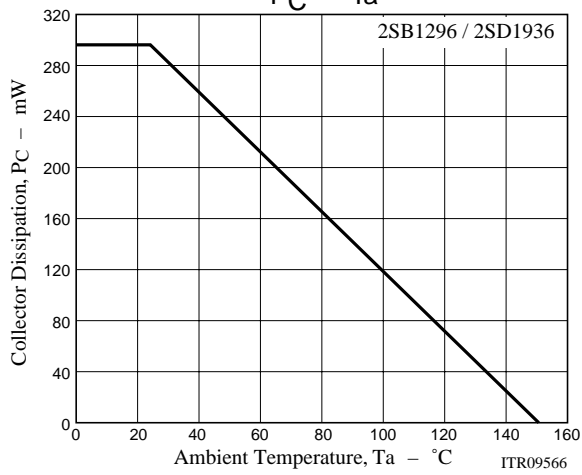
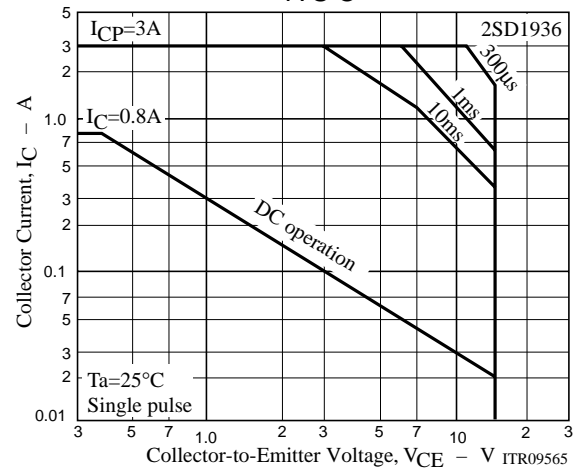
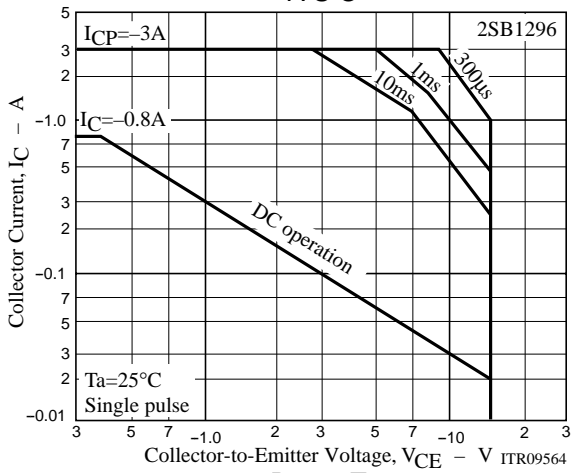
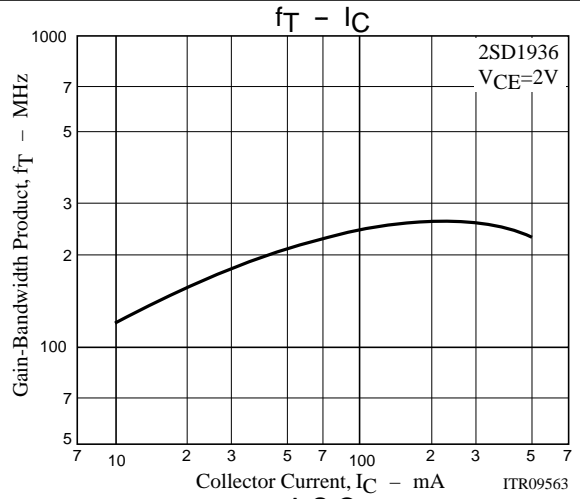
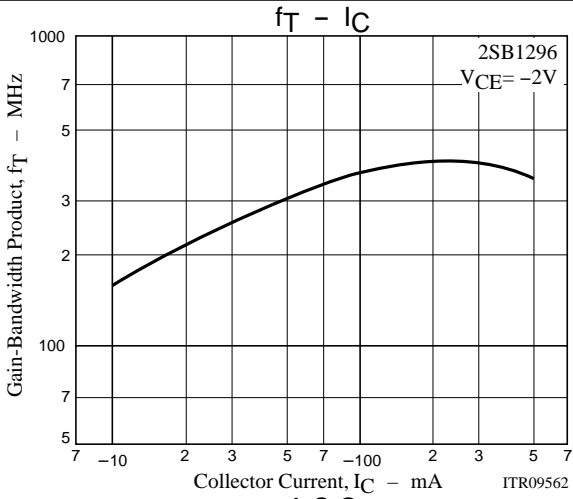
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)2V, I_C=(-)50mA$		(300)		MHz
				200		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10V, f=1MHz$		(15)		pF
				10		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=(-)5mA, I_B=(-)0.5mA$		(-10)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



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