



## High $h_{FE}$ , AF Amplifier Applications

### Applications

- AF amplifier, various drivers, muting circuit.

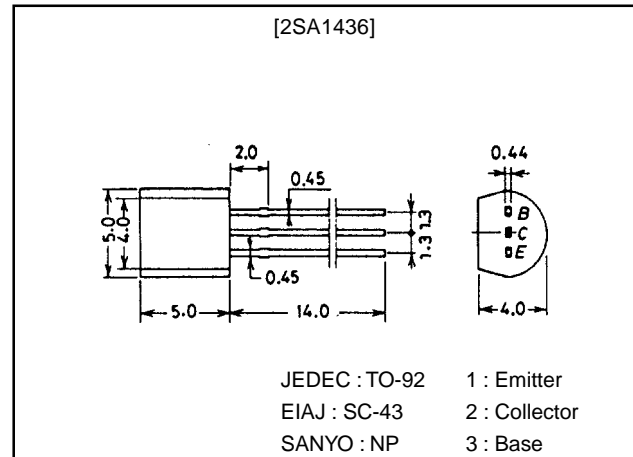
### Features

- Adoption of MBIT process.
- High DC current gain ( $h_{FE}=500$  to 1200).
- Large current capacity.
- Low collector-to-emitter saturation voltage ( $V_{CE(sat)}=0.5V$  max).
- High  $V_{EBO}$  ( $V_{EBO}\geq 15V$ ).

### Package Dimensions

unit:mm

2003A



### Specifications

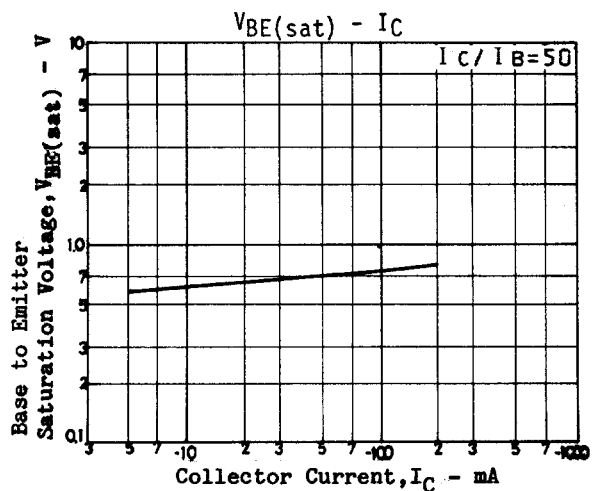
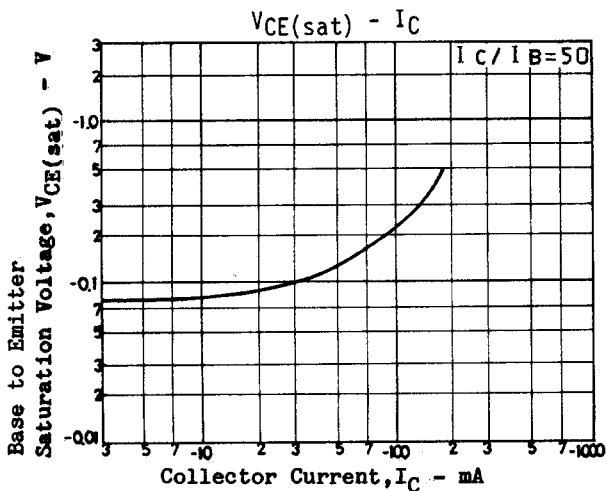
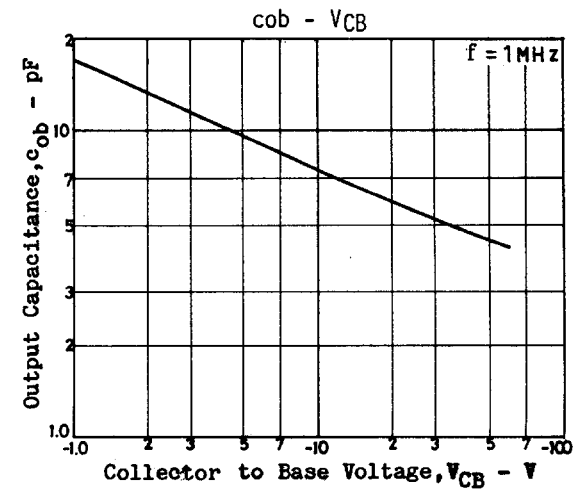
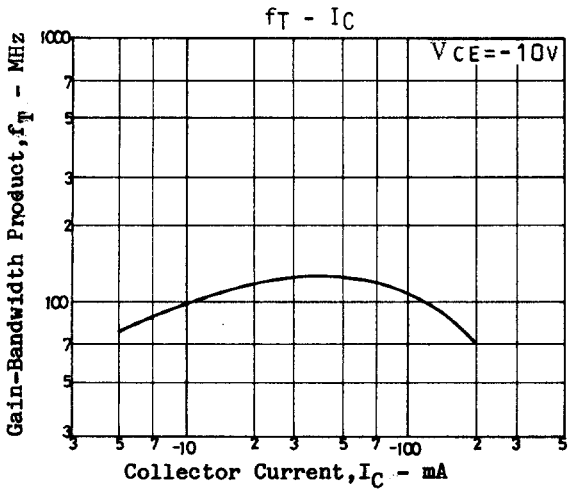
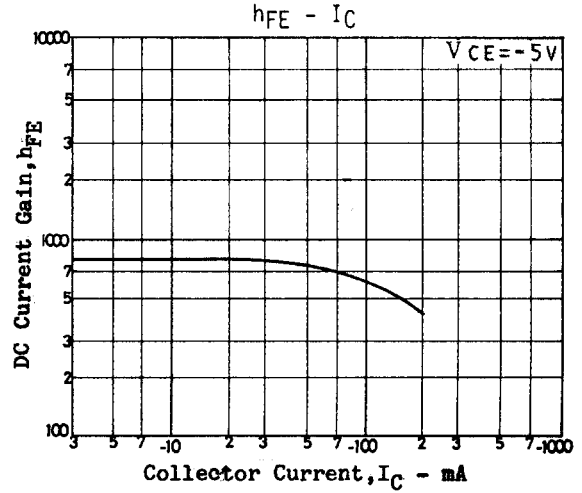
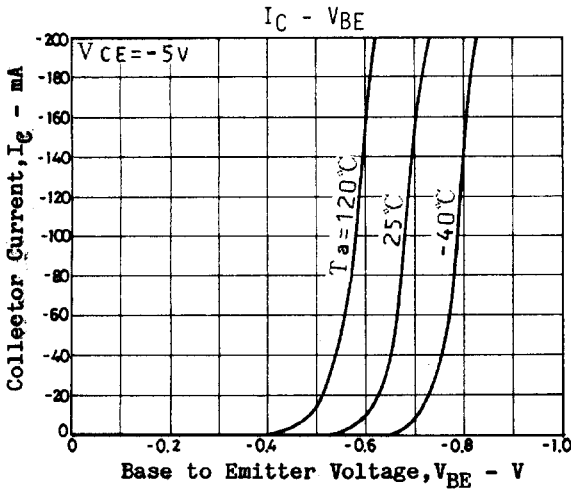
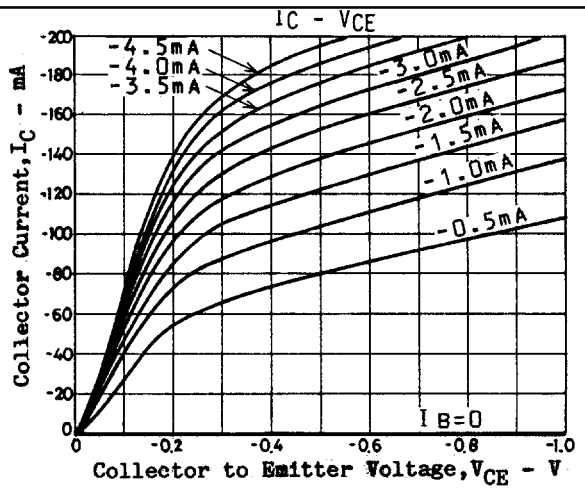
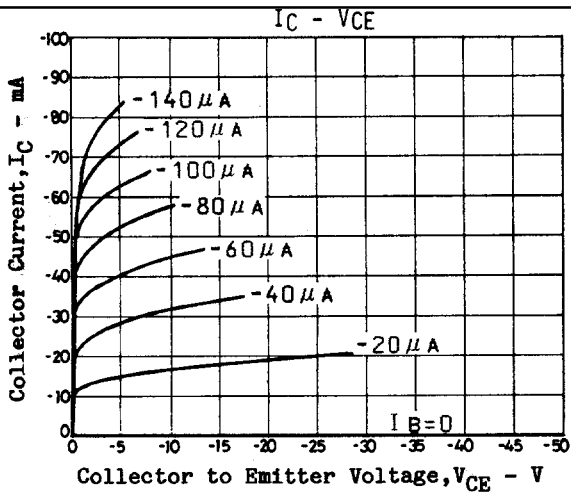
#### Absolute Maximum Ratings at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		-60	V
Collector-to-Emitter Voltage	$V_{CEO}$		-50	V
Emitter-to-Base Voltage	$V_{EBO}$		-15	V
Collector Current	$I_C$		-200	mA
Collector Current (Pulse)	$I_{CP}$		-300	mA
Collector Dissipation	$P_C$		600	mW
Junction Temperature	$T_J$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

#### Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-40V, I_E=0$			-0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-10V, I_C=0$			-0.1	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE}=-5V, I_C=-10mA$	500	800	1200	
	$h_{FE2}$	$V_{CE}=-5V, I_C=-100mA$	200			
Gain-Bandwidth Product	$f_T$	$V_{CE}=-10V, I_C=-10mA$		100		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10V, f=1MHz$		7.5		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-100mA, I_B=-2mA$		-0.2	-0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-100mA, I_B=-2mA$		-0.75	-1.1	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	-50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-15			V

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