



## High-h<sub>FE</sub>, AF Amplifier Applications

### Applications

- AF amplifier, various drivers, muting circuit.

### Features

- Very small-sized package permitting sets to be made smaller and slimer.
- Adoption of FBET process.
- High DC current gain : ( $h_{FE}=400$  to  $1000$ ).
- High breakdown voltage : ( $V_{CEO} \geq 100V$ ).
- Low collector-to-emitter saturation voltage : ( $V_{CE(sat)} \leq 0.5V$ ).
- High  $V_{EBO}$  : ( $V_{EBO} \geq 15V$ ).
- Small  $C_{ob}$  : ( $C_{ob}=4.0pF$  typ).

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		-120	V
Collector-to-Emitter Voltage	$V_{CEO}$		-100	V
Emitter-to-Base Voltage	$V_{EBO}$		-15	V
Collector Current	$I_C$		-50	mA
Collector Current (Pulse)	$I_{CP}$		-100	mA
Collector Dissipation	$P_C$		500	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	$I_{CBO}$	$V_{CB}=-80V, I_E=0$			-0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-10V, I_C=0$			-0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=-5V, I_C=-10mA$	400	700	1000	
Gain-Bandwidth Product	$f_T$	$V_{CE}=-10V, I_C=-10mA$		85		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10V, f=1MHz$		4.0		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10mA, I_B=-0.2mA$		-0.18	-0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-10mA, I_B=-0.2mA$		-0.7	-1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	-100			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-15			V

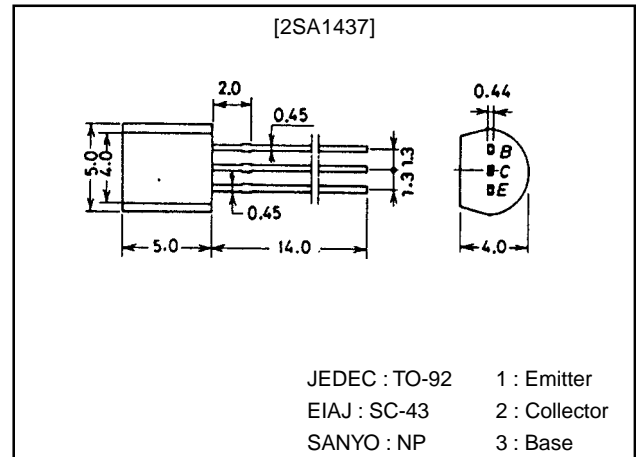
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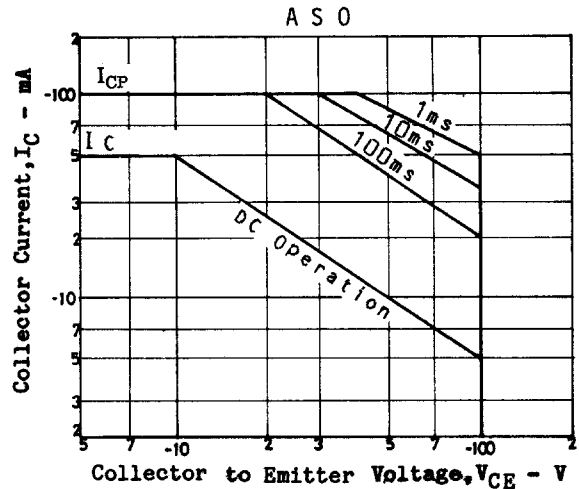
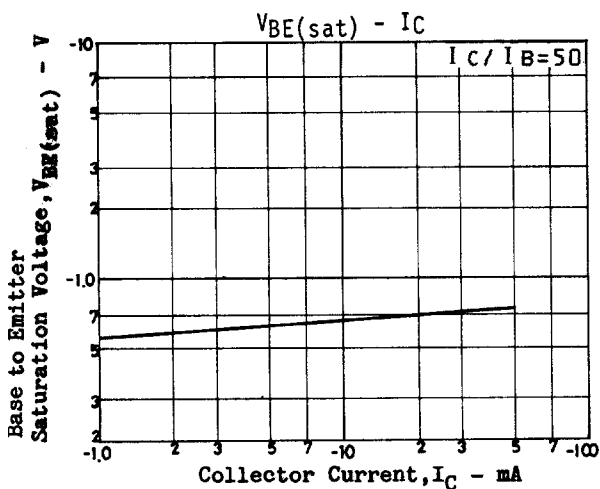
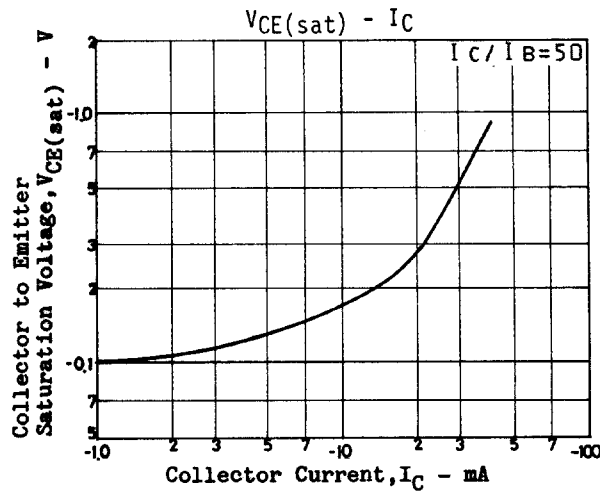
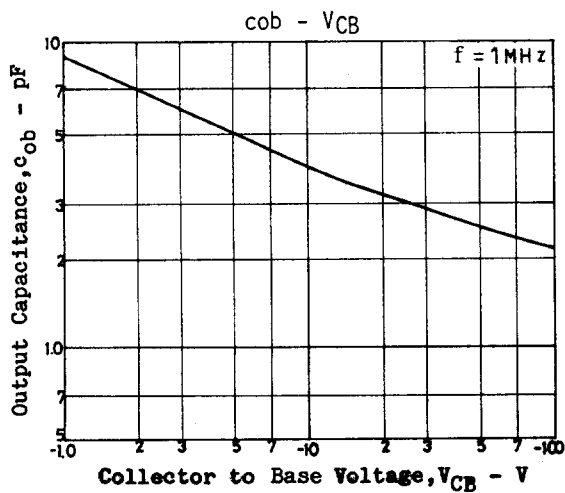
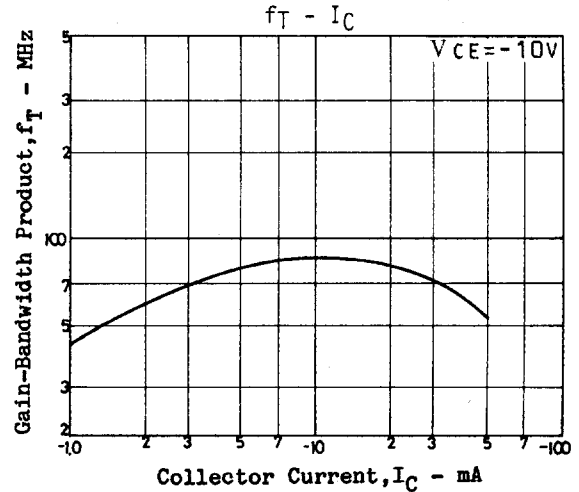
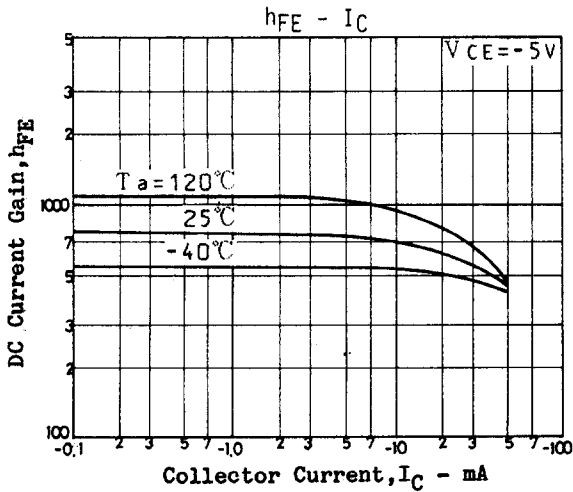
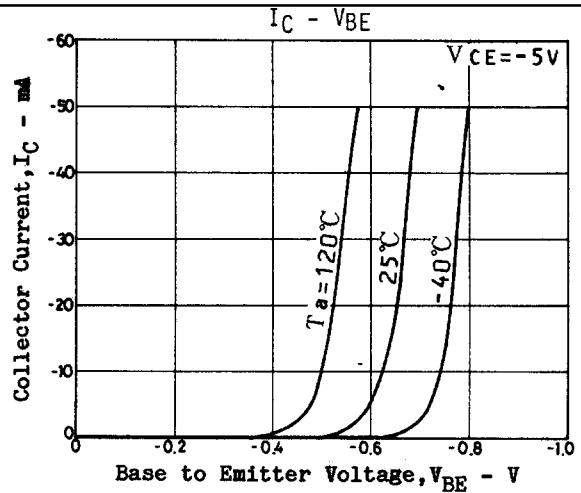
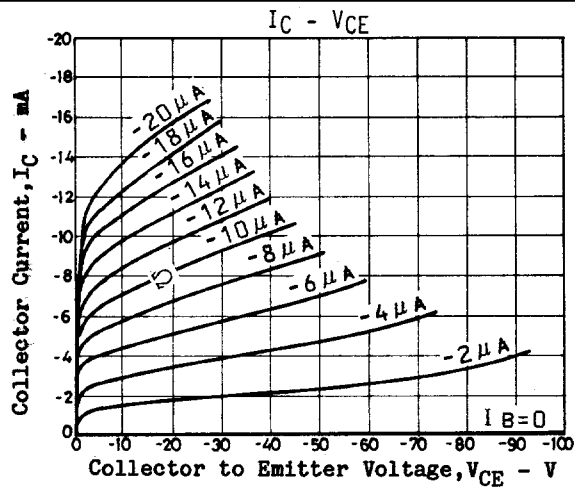
### Package Dimensions

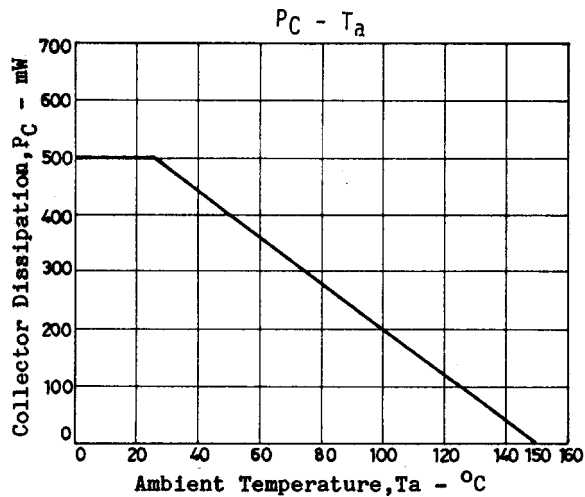
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