



## 2SA1831

### High-Voltage Amplifier, High-Voltage Switching Applications

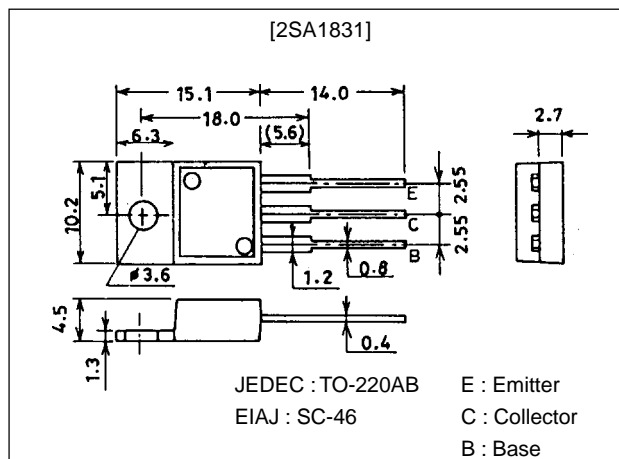
#### Features

- High breakdown voltage ( $V_{CEO}$  min= $-800V$ ).
- Small  $C_{ob}$  ( $C_{ob}$  typ= $1.6pF$ ).
- High reliability (Adoption of HVP processes).

#### Package Dimensions

unit:mm

2010B



#### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		$-800$	V
Collector-to-Emitter Voltage	$V_{CEO}$		$-800$	V
Emitter-to-Base Voltage	$V_{EBO}$		$-7$	V
Collector Current	$I_C$		$-20$	mA
Collector Current (Pulse)	$I_{CP}$		$-60$	mA
Collector Dissipation	$P_C$		$1.75$	W
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	$I_{CBO}$	$V_{CB} = -800V, I_E = 0$			$-1$	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			$-1$	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE} = -5V, I_C = -2mA$	20		50	
Gain-Bandwidth Product	$f_T$	$V_{CE} = -10V, I_C = -2mA$		10		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -100V, f = 1MHz$		1.6		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1mA, I_B = -200\mu A$			$-1$	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1mA, I_B = -200\mu A$			$-1.5$	V

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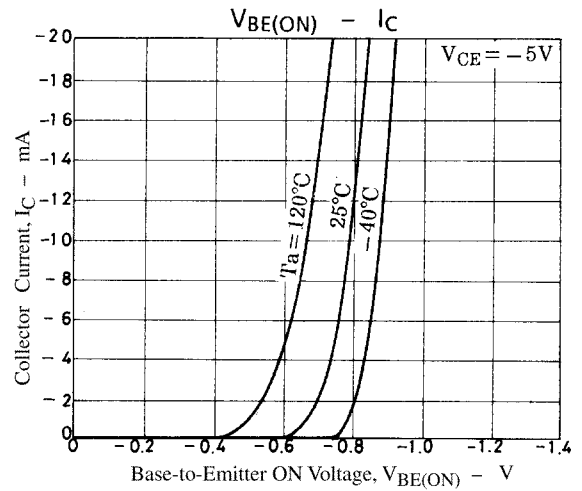
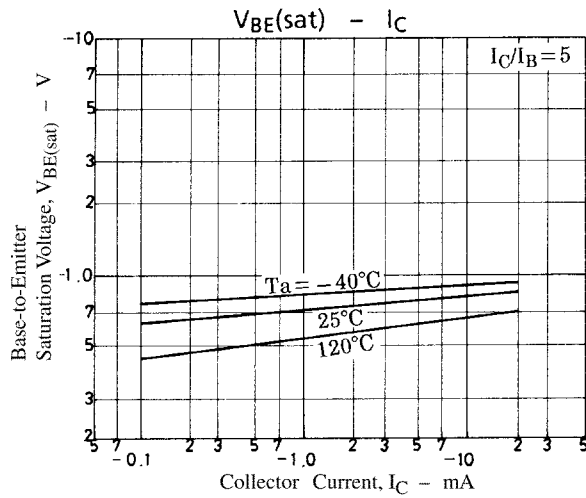
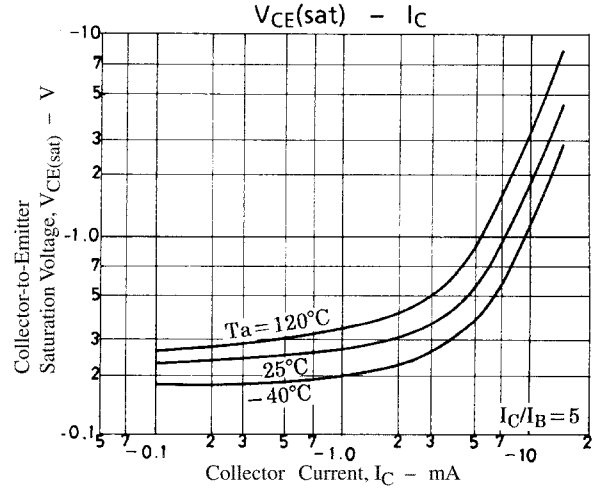
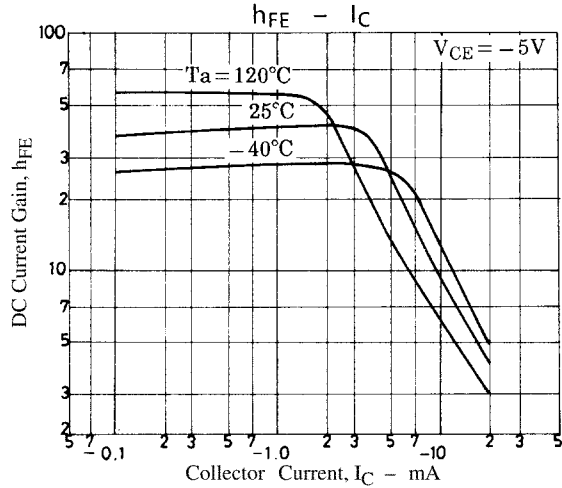
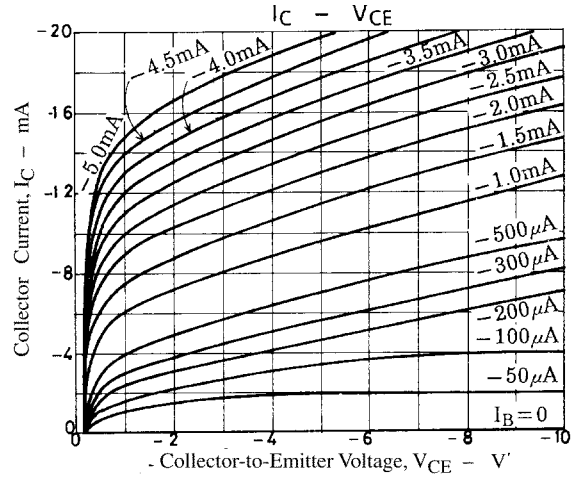
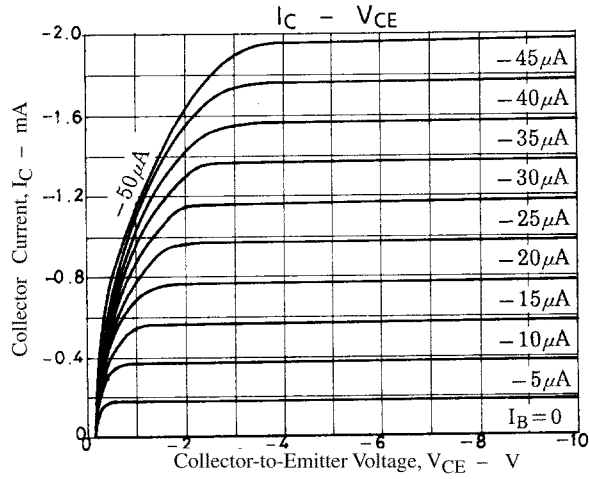
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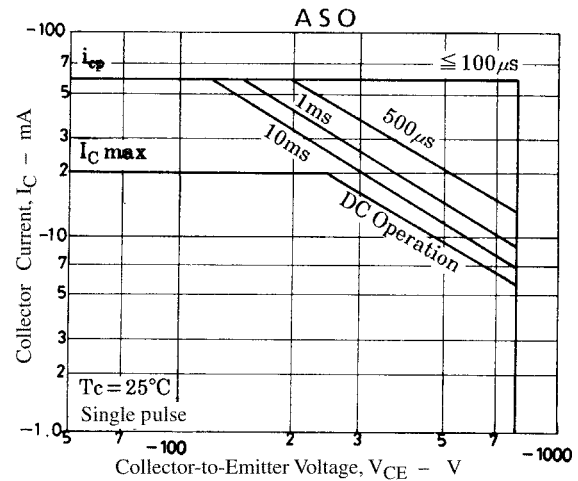
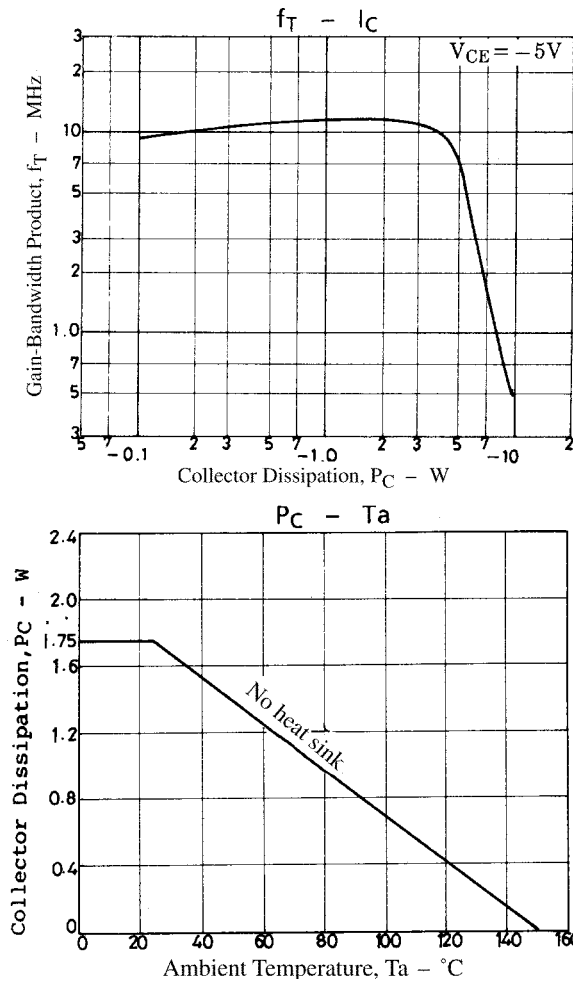
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91098HA (KT)/D251MH/5201MH, KOTO No.3686-1/3

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)100\mu A, I_E = 0$	-800			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	-800			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)100\mu A, I_C = 0$	-7			V
Thermal Resistance	$R_{th(j-c)}$	Junction-Case			8.3	$^{\circ}C/W$





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