

**2SA1831**

High-Voltage Amplifier, High-Voltage Switching Applications

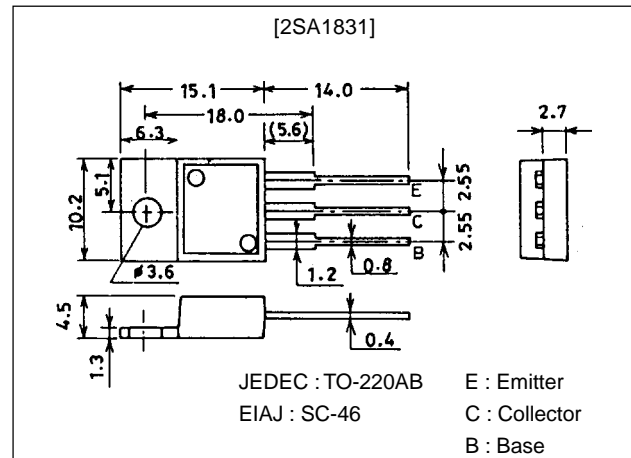
Features

- High breakdown voltage (V_{CE0} 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 $T_a = 25^\circ\text{C}$

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	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

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

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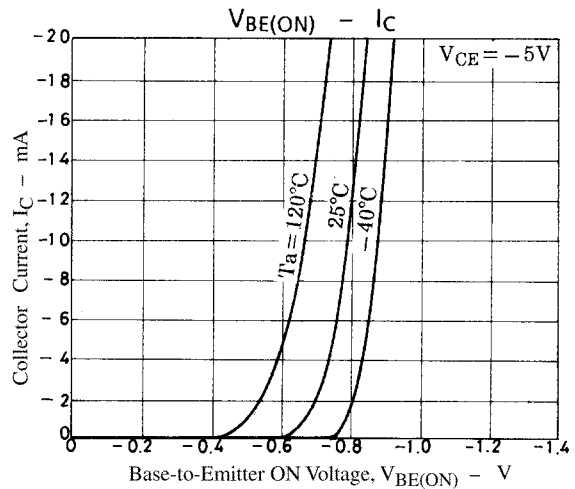
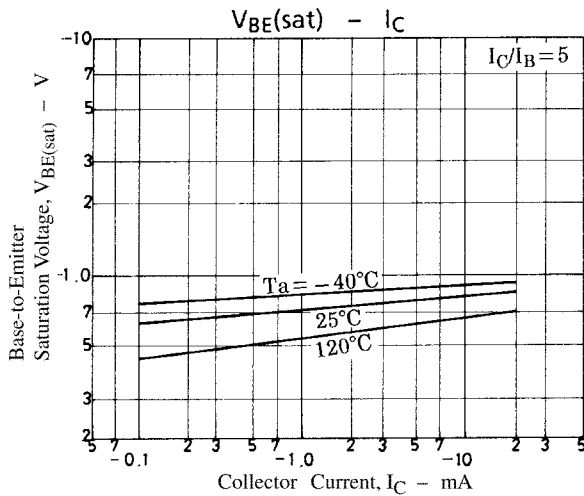
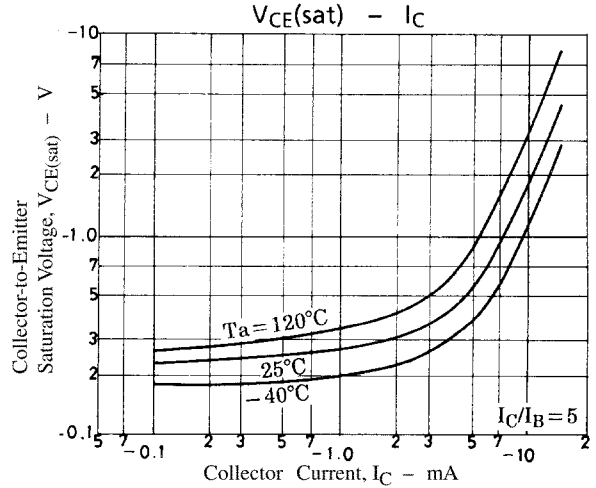
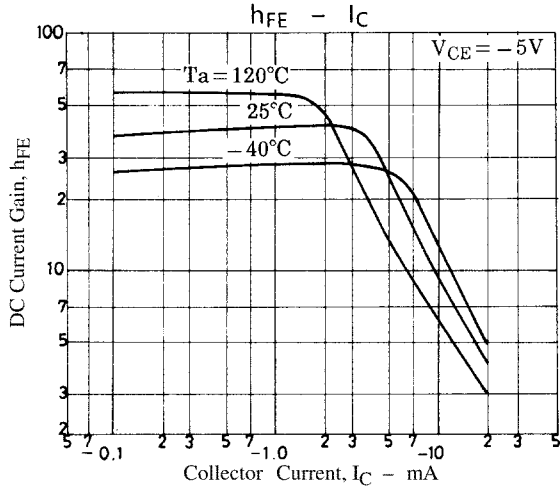
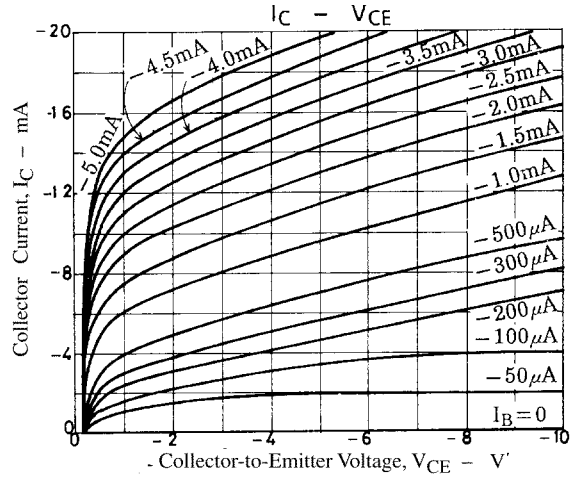
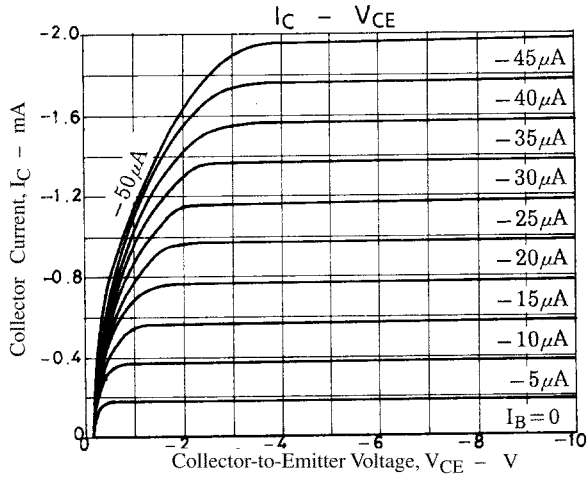
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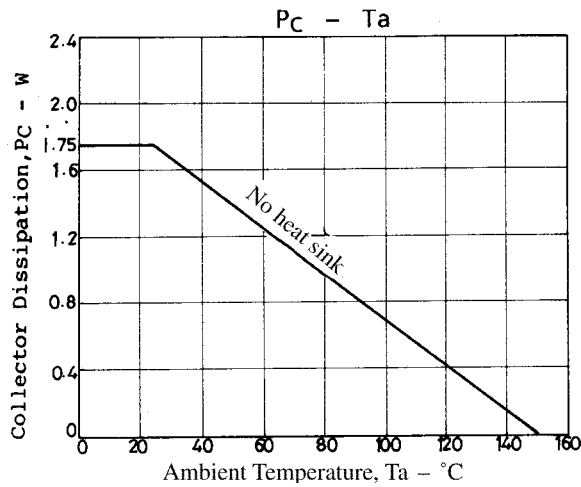
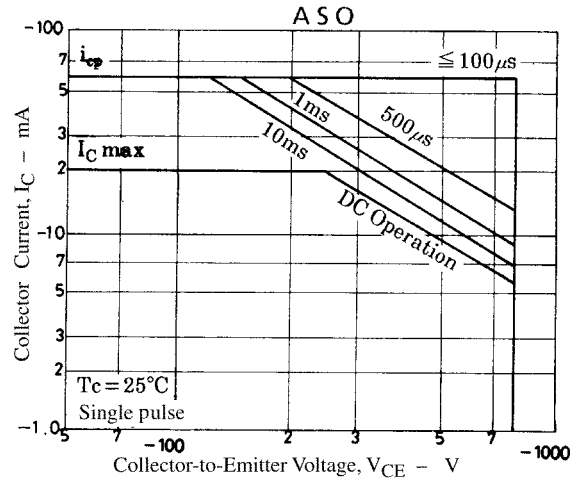
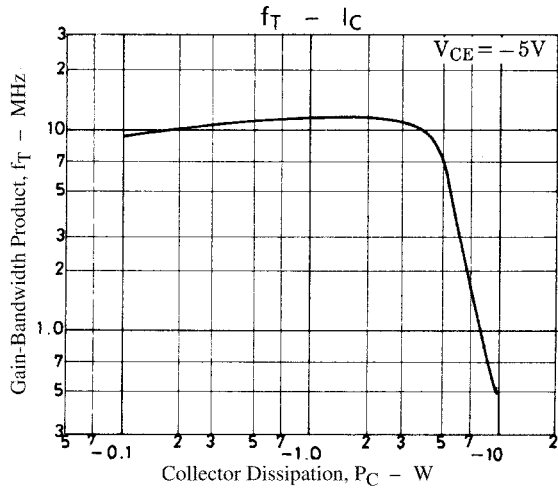
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)100\mu A, I_E = 0$	-800			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	-800			V
Emitter-to-Base 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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