



2SB1271/2SD1907

High-Current Switching Applications

Applications

- Suitable for relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features

- Suitable for sets whose height is restricted.
- Low collector to emitter saturation voltage.
- Large current capacity.

() : 2SB1271

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-90)	V
Collector-to-Emitter Voltage	V_{CEO}		(-80)	V
Emitter-to-Base Voltage	V_{EBO}		(-6)	V
Collector Current	I_C		(-7)	A
Collector Current (Pulse)	I_{CP}		(-12)	A
Collector Dissipation	P_C		1.65	W
		$T_c=25^\circ\text{C}$	40	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_{CB0}	$V_{CB} = (-)80\text{V}, I_E = 0$			(-0.1)	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-0.1)	mA
DC Current Gain	h_{FE1}	$V_{CE} = (-)2\text{V}, I_C = (-)1\text{A}$	70*		280*	
	h_{FE2}	$V_{CE} = (-)2\text{V}, I_C = (-)4\text{A}$	30			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)5\text{V}, I_C = (-)1\text{A}$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)4\text{A}, I_B = (-)0.4\text{A}$			0.4	V
					(-0.5)	V

* : The 2SB1271/2SD1907 are classified by 1A h_{FE} as follows :

70	Q	140	100	R	200	140	S	280
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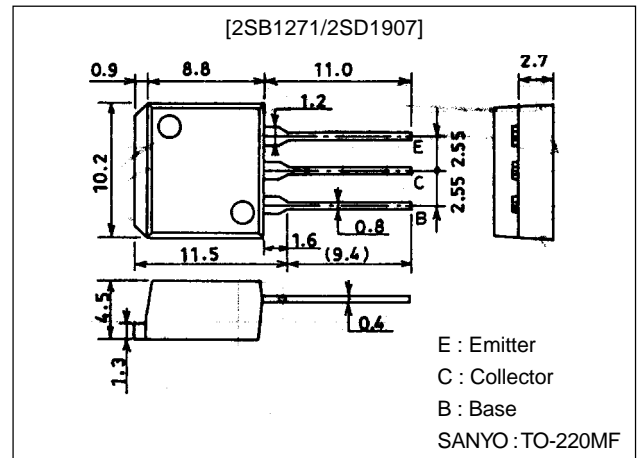
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Package Dimensions

unit:mm

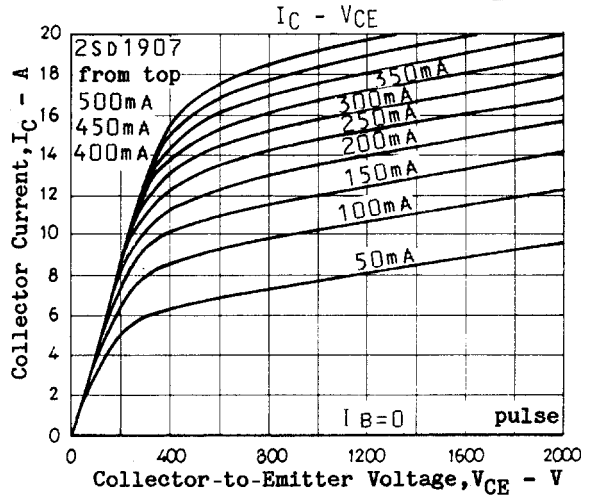
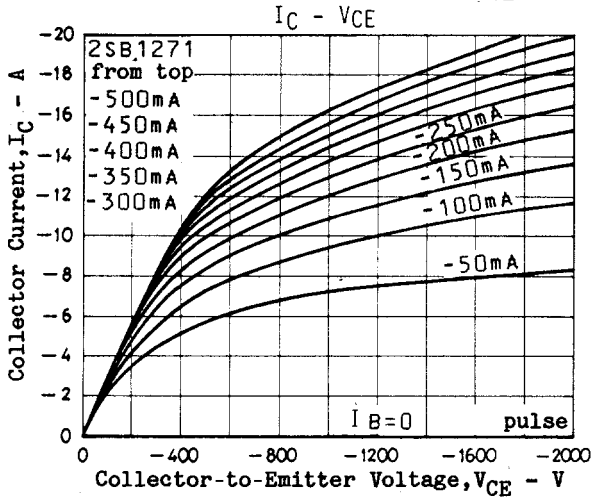
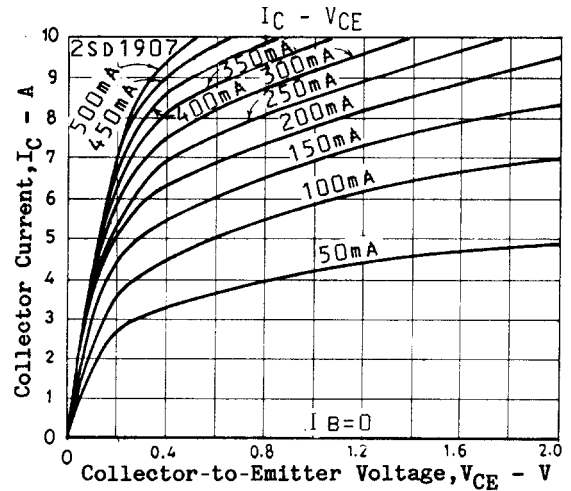
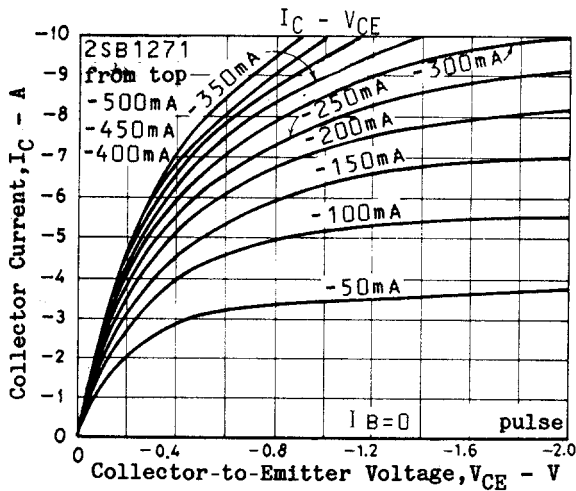
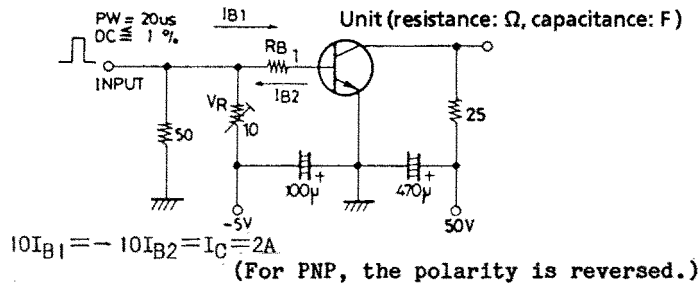
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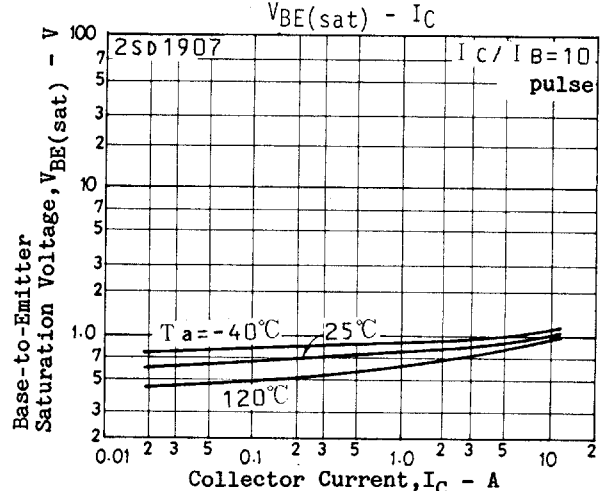
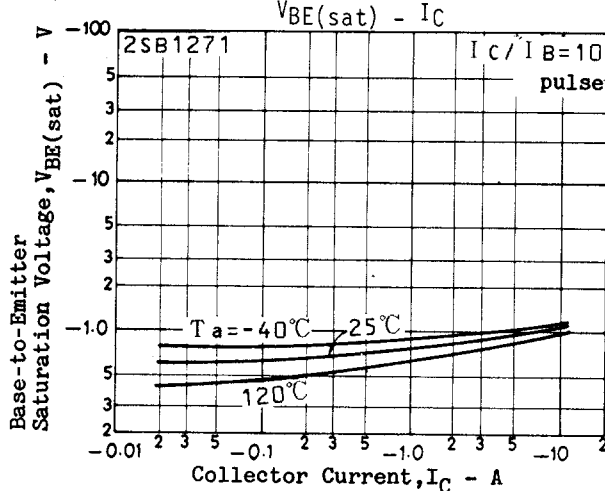
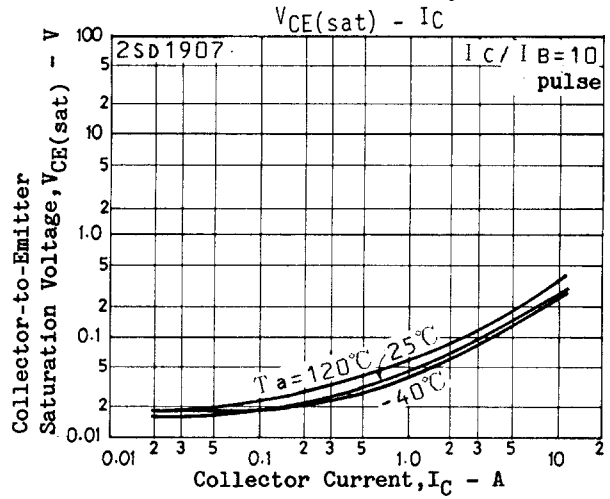
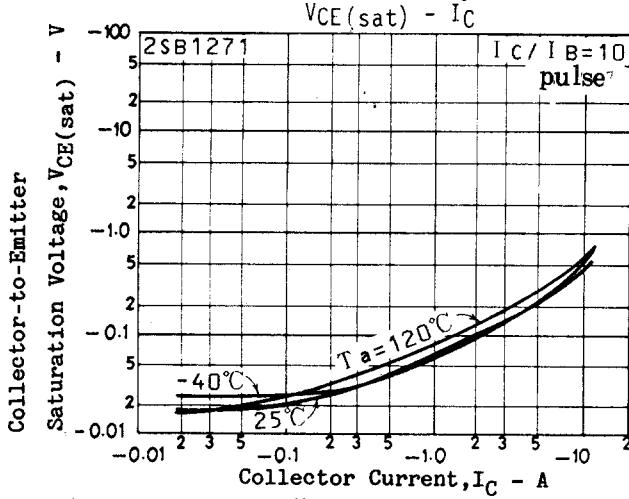
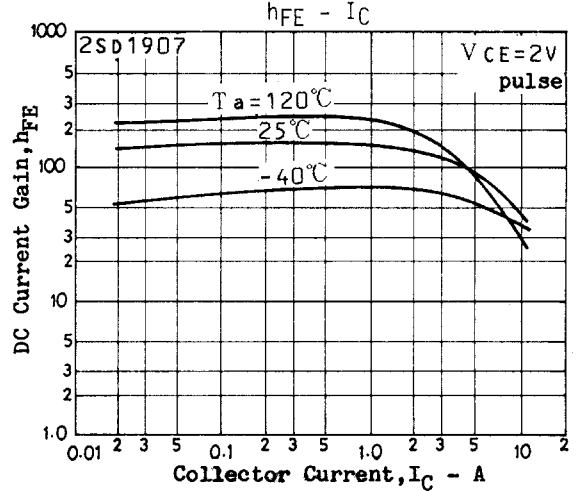
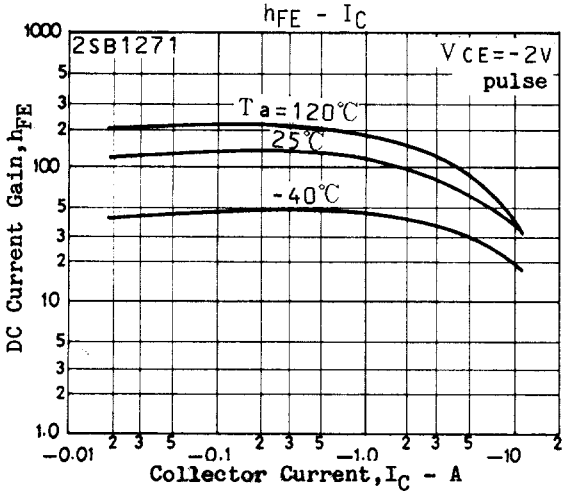
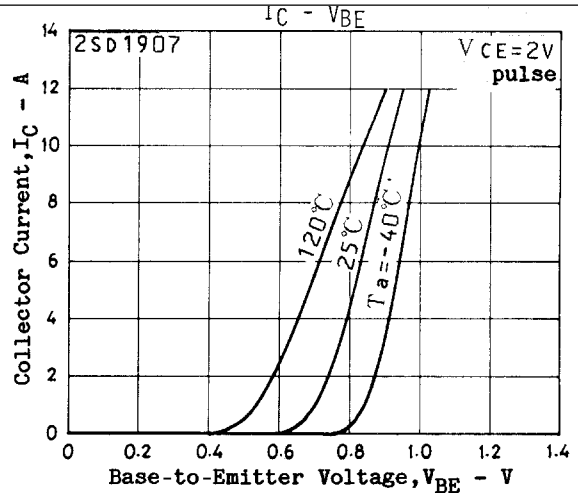
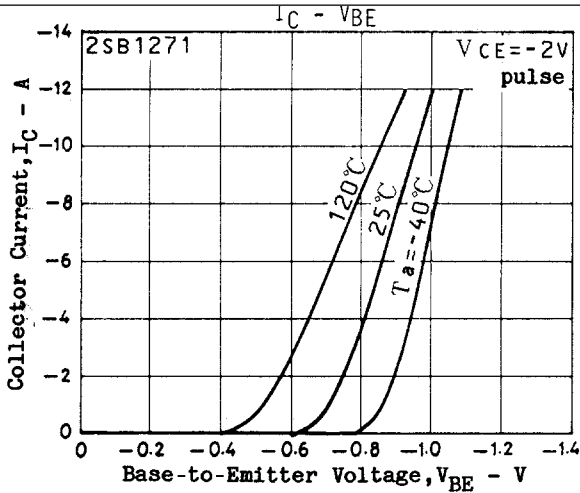
2SB1271/2SD1907

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)1mA, I_E = 0$	(-90)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-80)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)1mA, I_C = 0$	(-6)			V
Turn-ON Time	t_{on}	See specified test circuit.		(0.2)		μs
Storage Time	t_{stg}	See specified test circuit.		(0.7)		μs
Fall Time	t_f	See specified test circuit.		(0.2)		μs
				0.4		μs

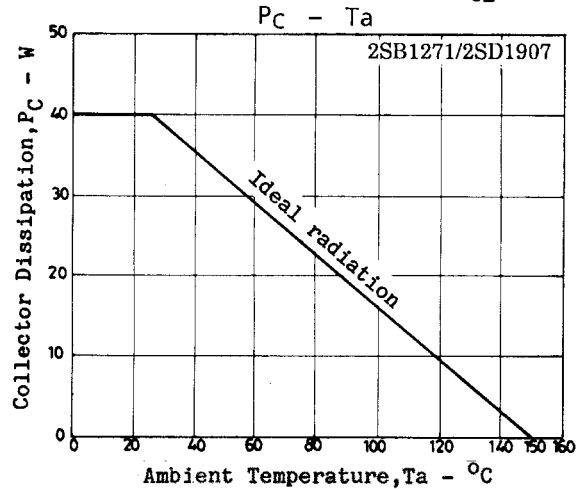
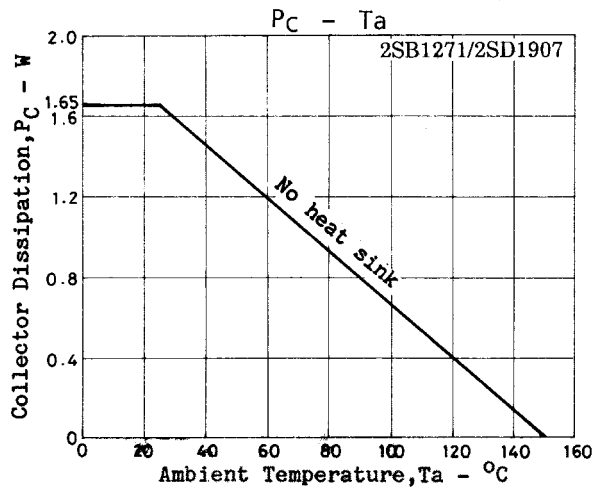
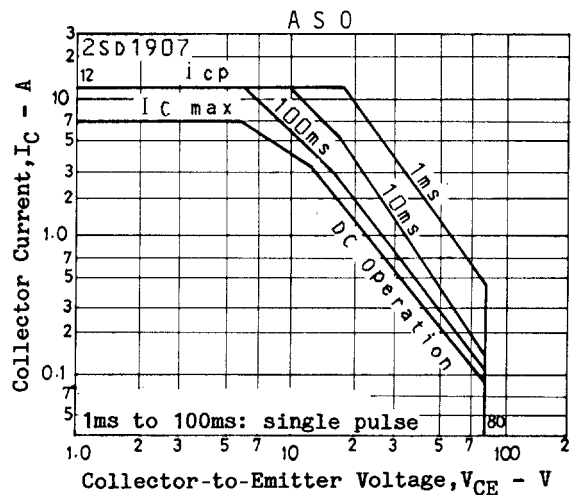
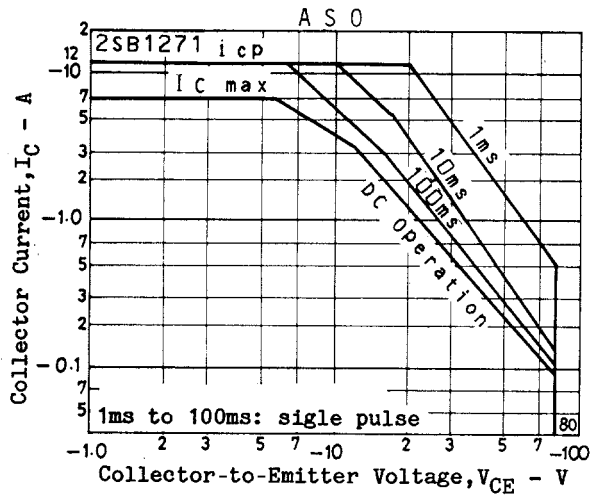
Switching Time Test Circuit



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