



2SB880/2SD1190

For Various Drivers Applications

Applications

- Motor drivers, printer hammer drivers, relay drivers, voltage regulators.

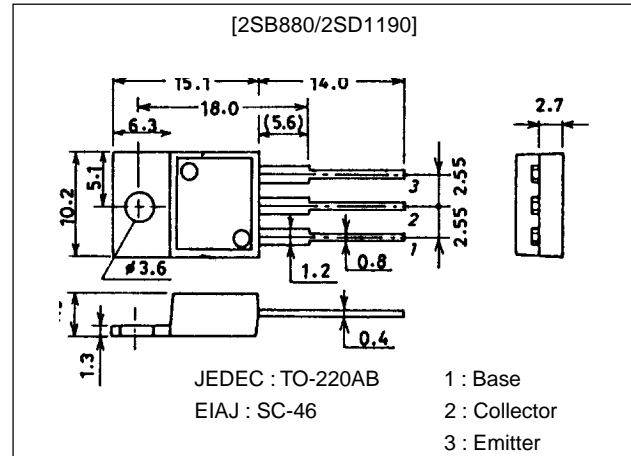
Features

- High DC current gain.
- Large current capacity and wide ASO.
- Low saturation voltage.

Package Dimensions

unit:mm

2010C



() : 2SB880

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-70)	V
Collector-to-Emitter Voltage	V_{CEO}		(-60)	V
Emitter-to-Base Voltage	V_{EBO}		(-6)	V
Collector Current	I_C		(-4)	A
Collector Current (Pulse)	I_{CP}		(-6)	A
Collector Dissipation	P_C		1.75	W
		$T_c=25^\circ\text{C}$	30	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(\sim)40\text{V}, I_E=0$			(-0.1)	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(\sim)5\text{V}, I_C=0$			(-3.0)	mA
DC Current Gain	h_{FE}	$V_{CE}=(\sim)2\text{V}, I_C=(\sim)2\text{A}$	2000	5000		
Gain-Bandwidth Product	f_T	$V_{CE}=(\sim)5\text{V}, I_C=(\sim)2\text{A}$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(\sim)2\text{A}, I_B=(\sim)4\text{mA}$		0.9	(-1.5)	V
				(-1.0)		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(\sim)2\text{A}, I_B=(\sim)4\text{mA}$			(-2.0)	V

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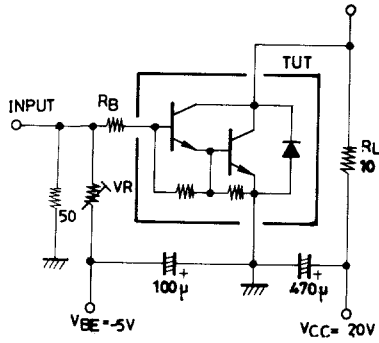
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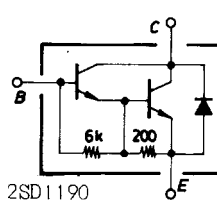
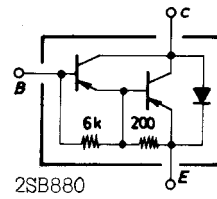
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)5mA, I_E = 0$	(-70)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)50mA, R_{BE} = \infty$	(-60)			V
Turn-ON Time	t_{on}	See specified Test Circuit		(0.5)		μs
				0.6		μs
Storage Time	t_{stg}	See specified Test Circuit		(1.4)		μs
				2.7		μs
Fall Time	t_f	See specified Test Circuit		(1.2)		μs
				1.6		μs

Switching Time Test Circuit

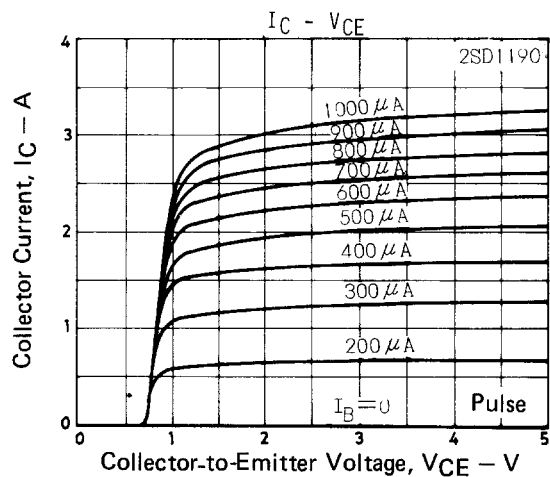
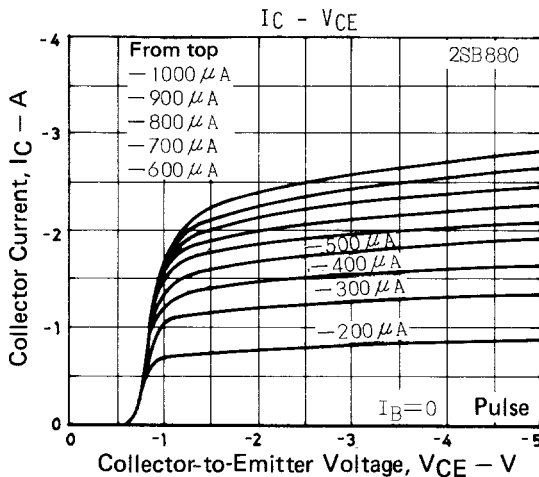
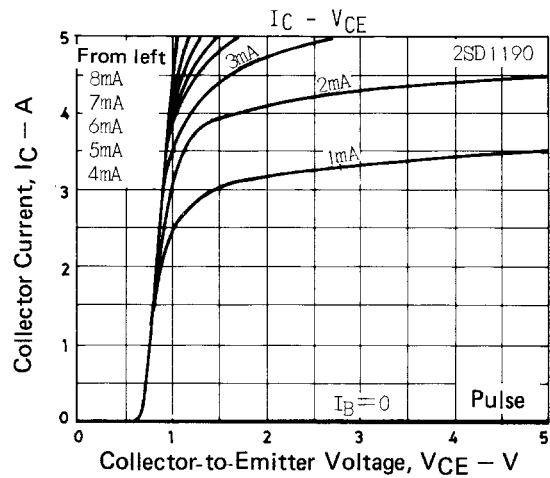
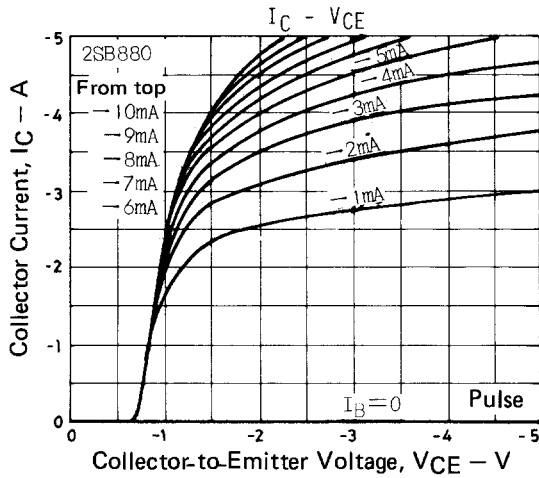


$PW = 50 \mu s, Duty\ Cycle \leq 1\%$
 $500I_{B1} = -500I_{B2} = I_C = 2A$
 (For PNP, the polarity is reversed.)
 Unit (resistance : Ω , capacitance: F)

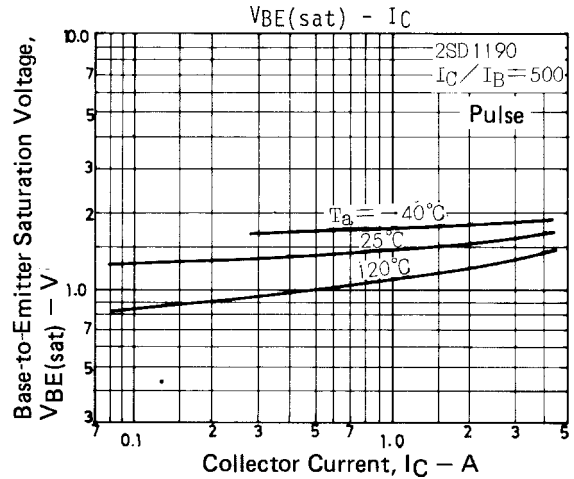
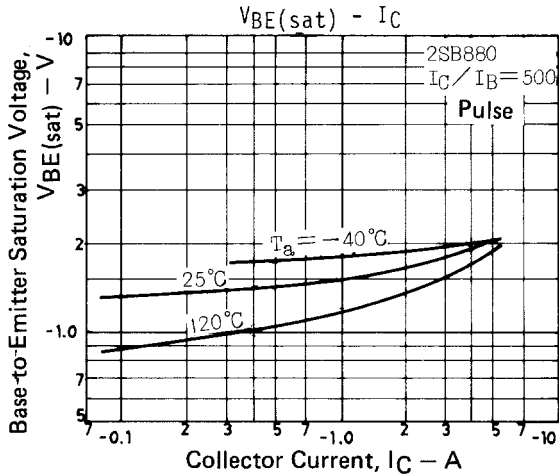
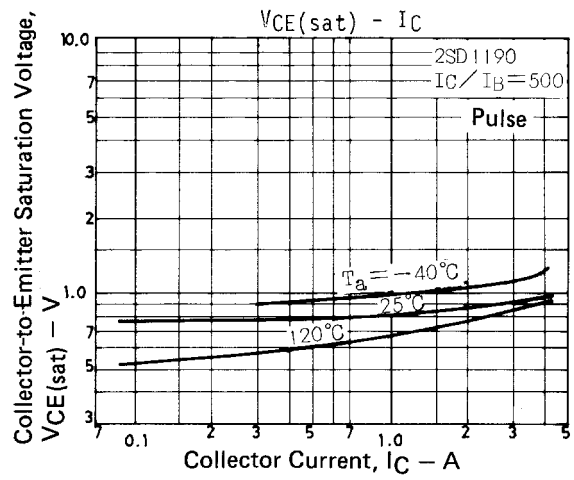
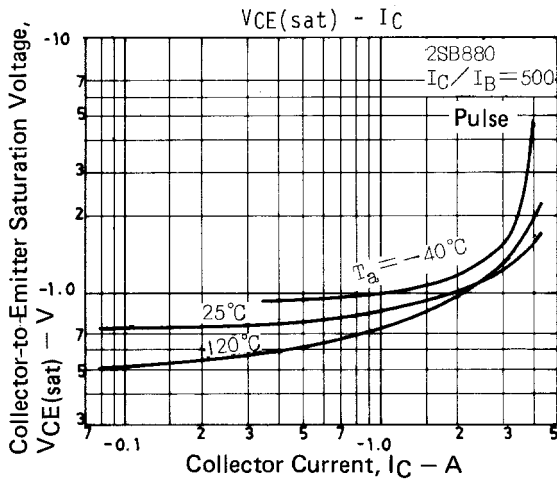
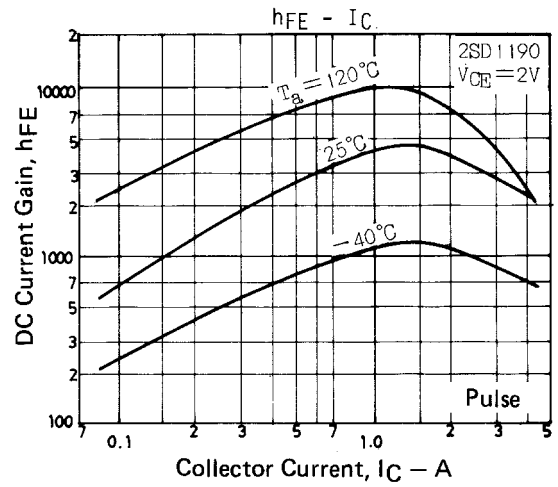
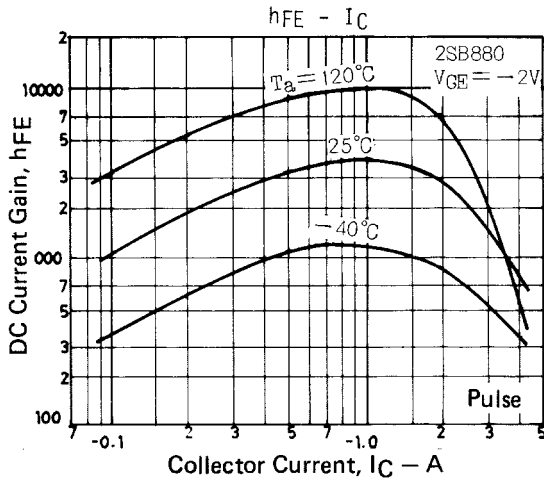
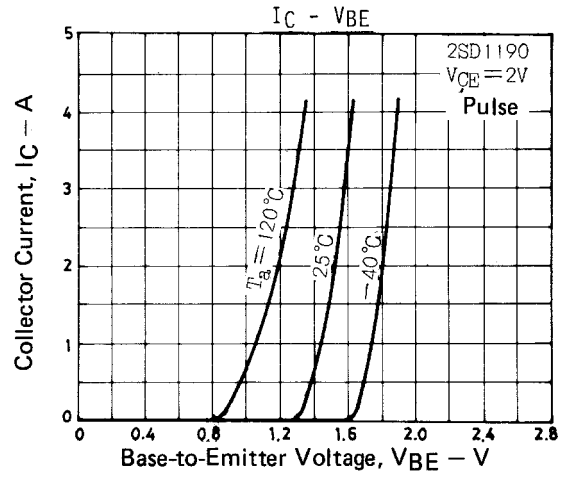
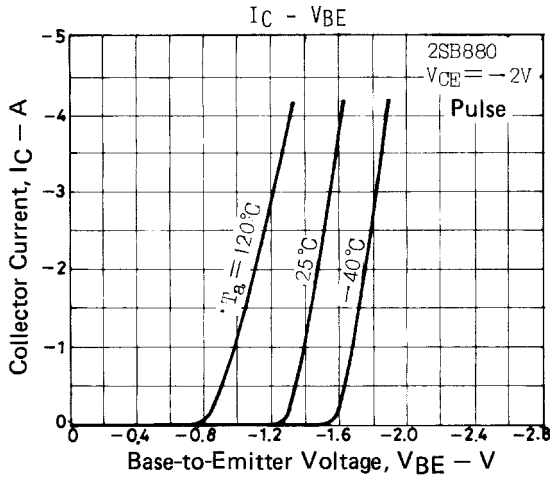
Electrical Connection



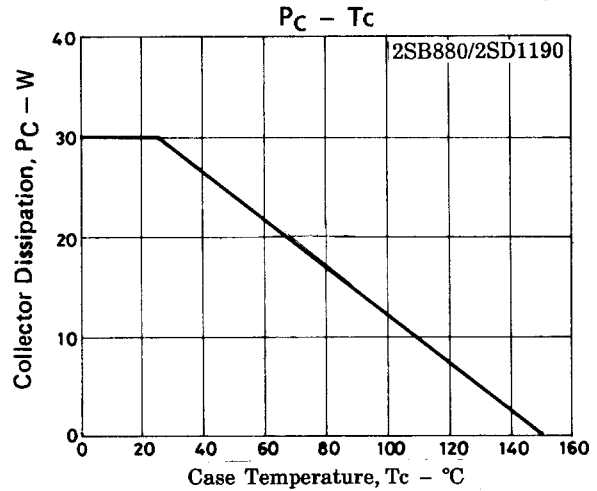
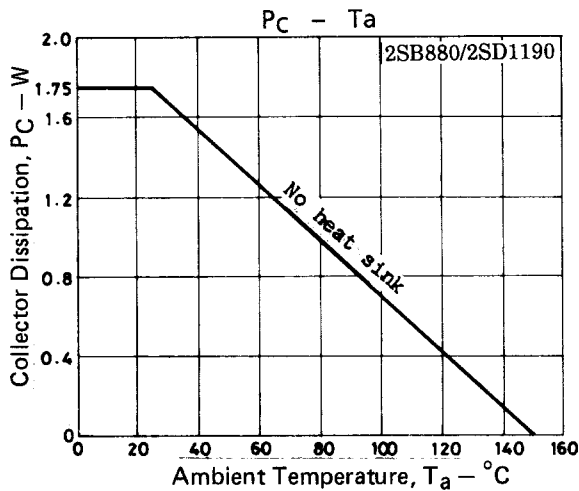
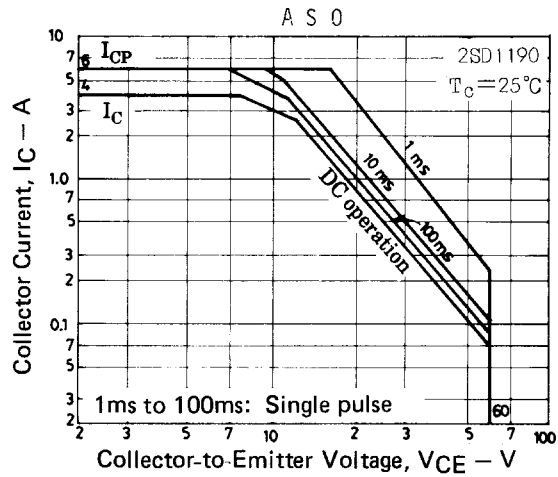
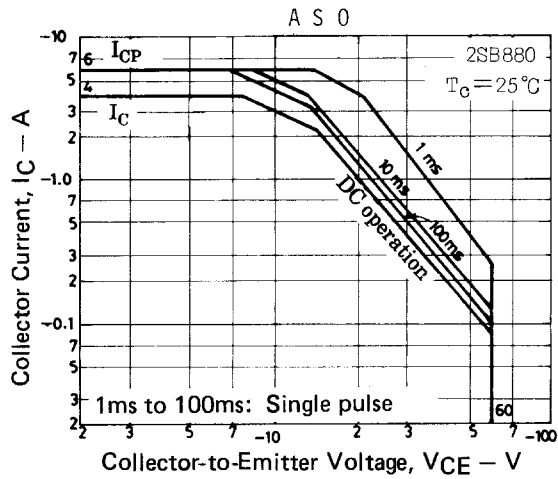
Unit (Resistance : Ω)



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