



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.

() : 2SB880

Specifications

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

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

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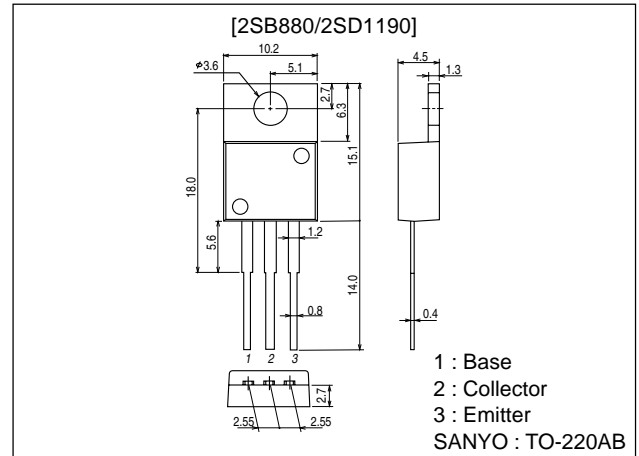
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Package Dimensions

unit:mm

2010C



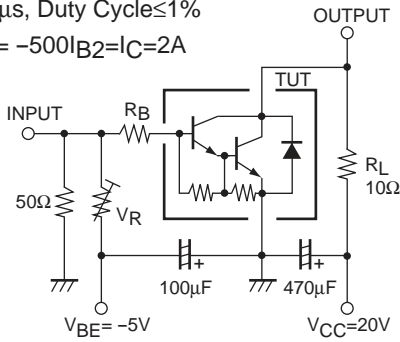
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5mA, I_E=0$	(-)70			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)50mA, R_{BE}=\infty$	(-)60			V
Turn-ON Time	t_{on}	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

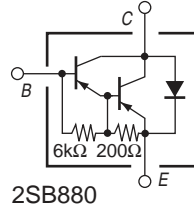
Switching Time Test Circuit

PW=50 μs , Duty Cycle \leq 1%
500I_{B1} = -500I_{B2} = I_C = 2A

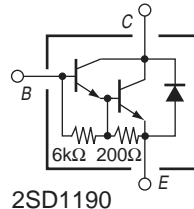


(For PNP, the polarity is reversed.)

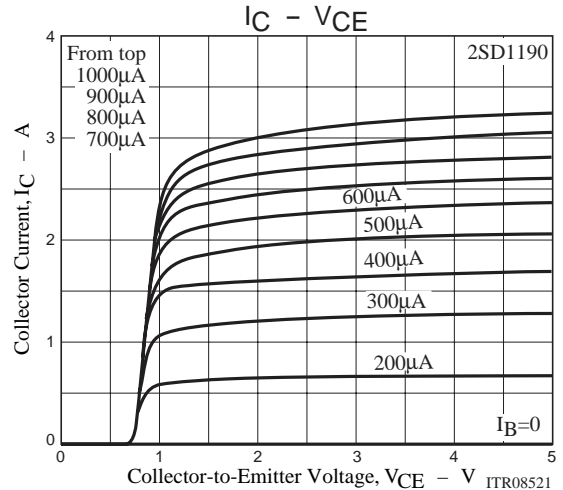
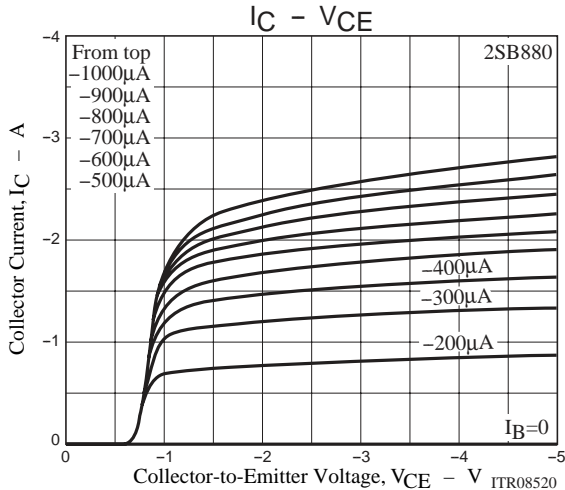
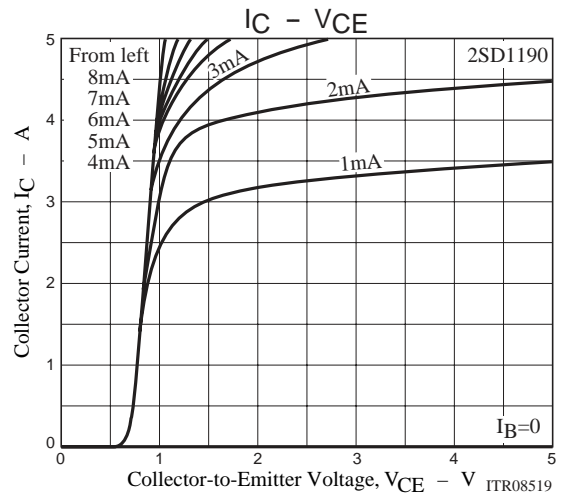
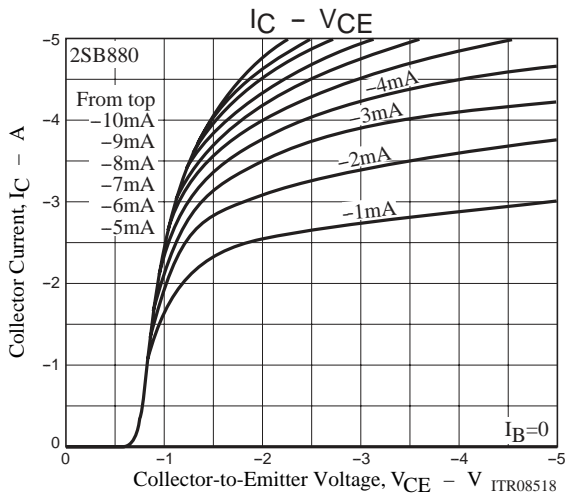
Electrical Connection



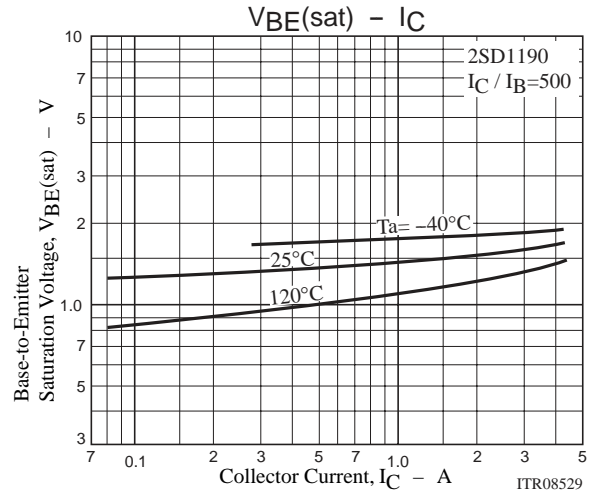
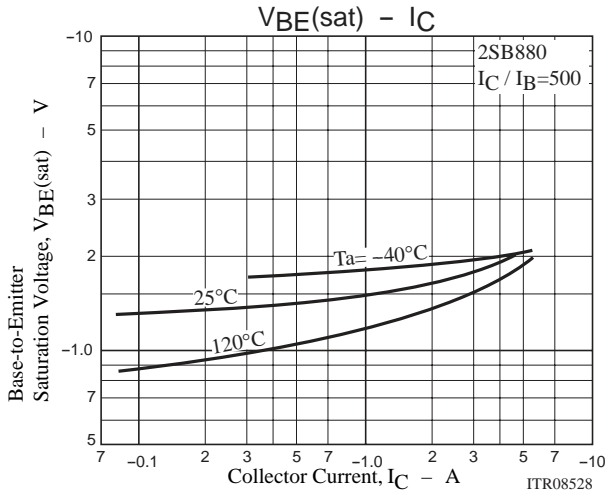
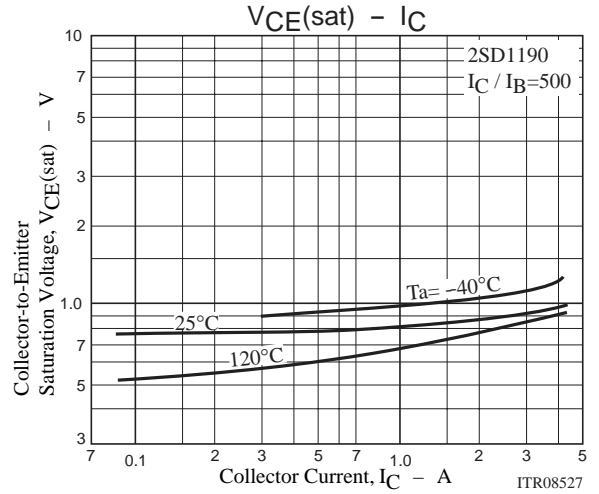
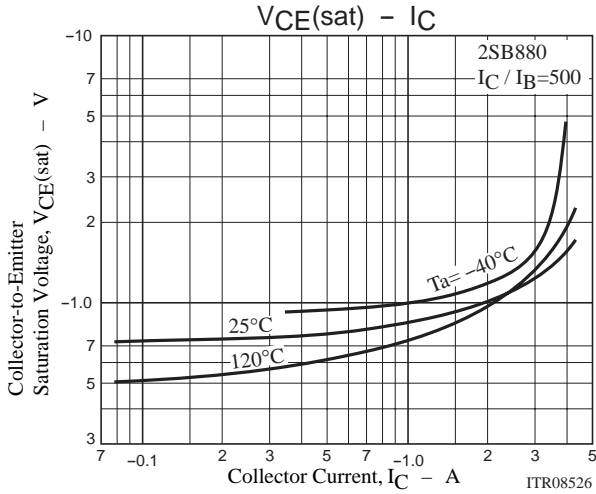
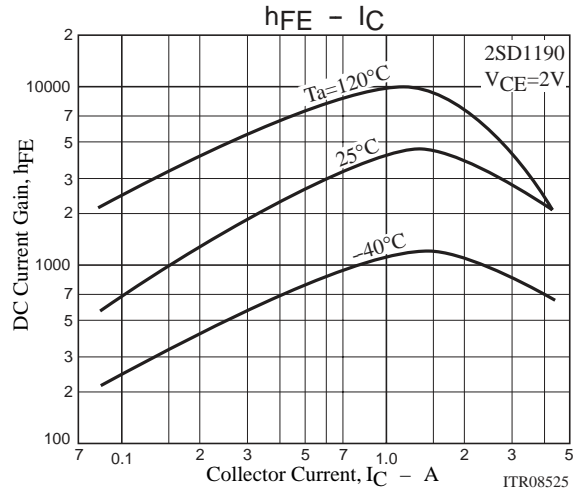
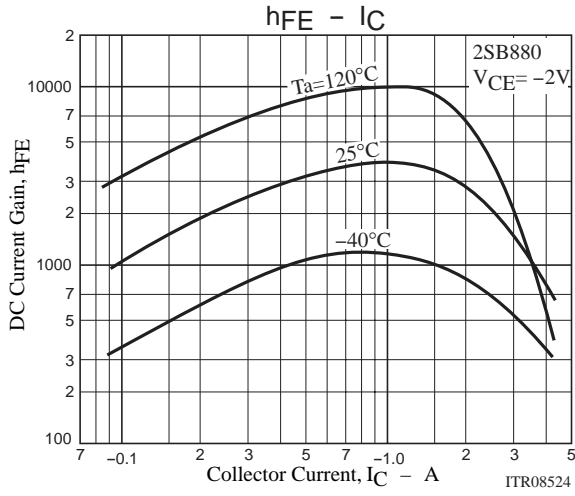
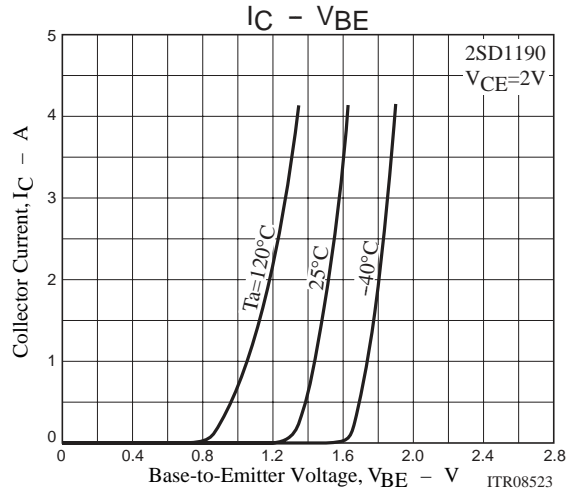
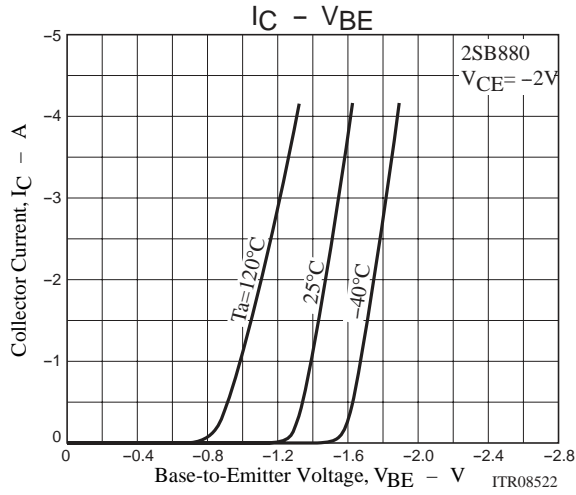
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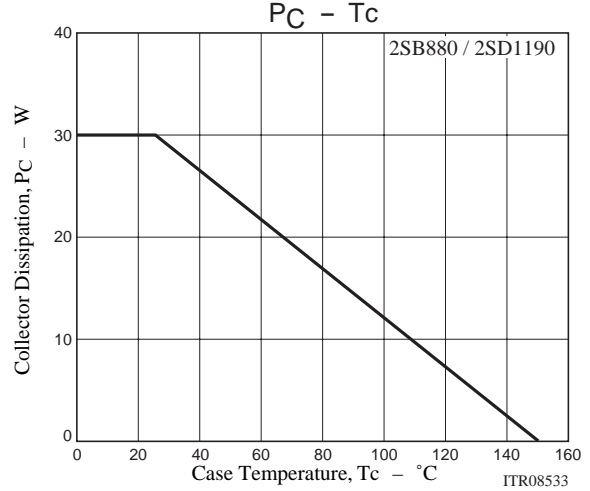
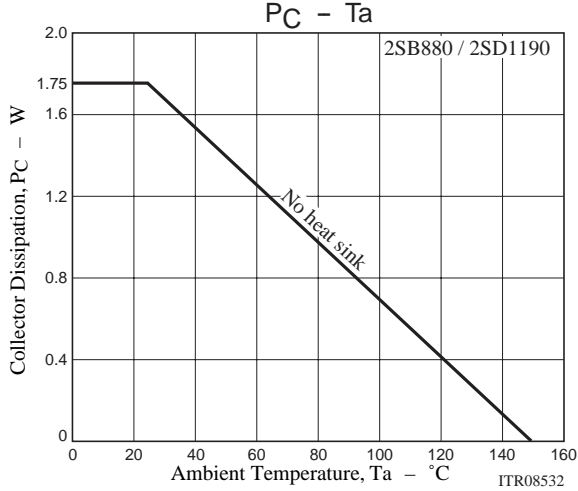
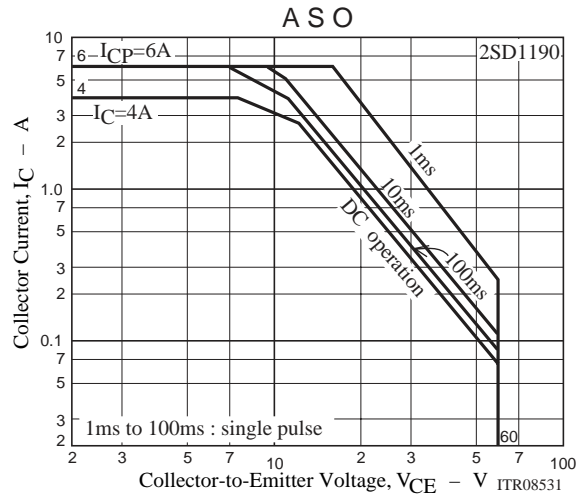
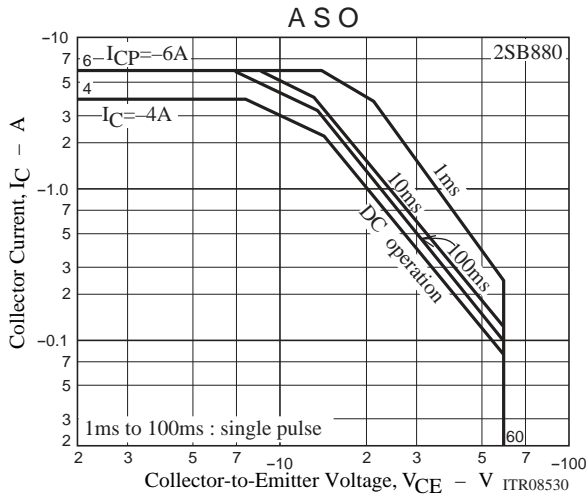
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