Ordering number: EN 925E

SANYO

No.925E

2SB881/2SD1191

PNP/NPN Epitaxial Planar Silicon Darlington Transistors

Driver Applications

Applications

· Motor drivers, printer hammer drivers, relay drivers, voltage regulator control.

Features

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

( ) : 2SB881

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector-to-Base Voltage	V_{CBO}		(−)70	V
Collector-to-Emitter Voltage	V_{CEO}		(−)60	V
Emitter-to-Base Voltage	V_{EBO}		(−)6	V
Collector Current	I_C		(−)7	A
Collector Current (Pulse)	I_{CP}		(−)10	A
Collector Dissipation	P_C		1.75	W
		Tc = 25°C	35	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

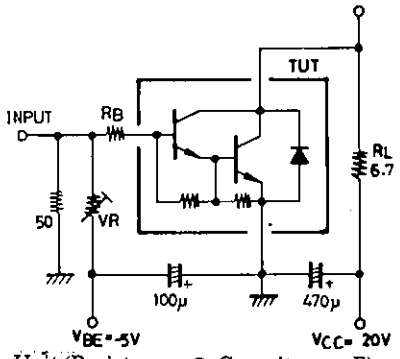
Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = (−)40V, I_E = 0			(−)0.1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB} = (−)5V, I_C = 0			(−)3.0	mA
DC Current Gain	h_{FE}	V_{CE} = (−)2V, I_C = (−)3.5A	2000	5000		
Gain Bandwidth Product	f_T	V_{CE} = (−)5V, I_C = (−)3.5A		20		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = (−)3.5A, I_B = (−)7mA		0.9(−)1.5 (−1.0)		V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = (−)3.5A, I_B = (−)7mA			(−)2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = (−)5mA, I_E = 0	(−)70			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = (−)50mA, R_{BE} = ∞	(−)60			V
Rise Time	t_{on}	See specified Test Circuit.		(0.5)0.6		μs
Storage Time	t_{stg}	〃		(1.5)3.0		μs
Fall Time	t_f	〃		(1.4)1.7		μs

Specified Test Circuit

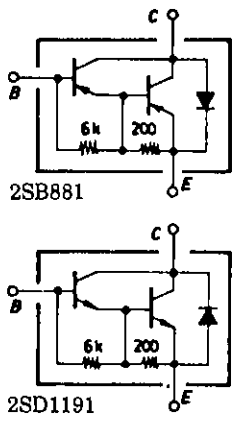
(For PNP, the polarity is reversed.)

PW = 50μs, Duty Cycle ≦ 1%
$500I_{B1} = -500I_{B2} = I_C = 3A$



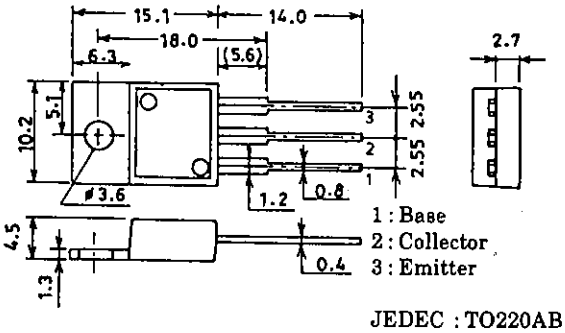
Unit (Resistance : Ω, Capacitance : F)

Electrical Connection



Package Dimensions 2010C

(unit : mm)



JEDEC : TO220AB
EIAJ : SC46

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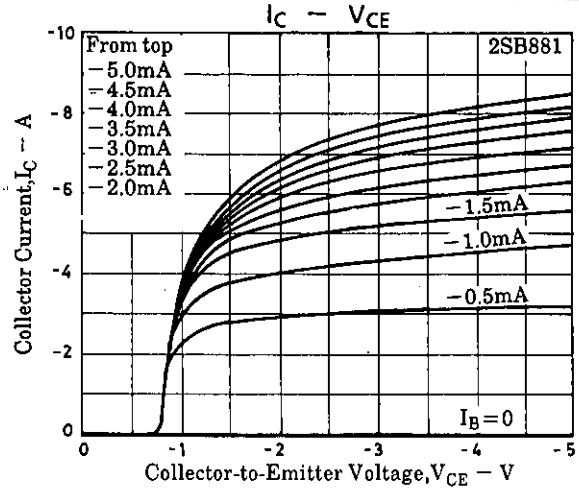
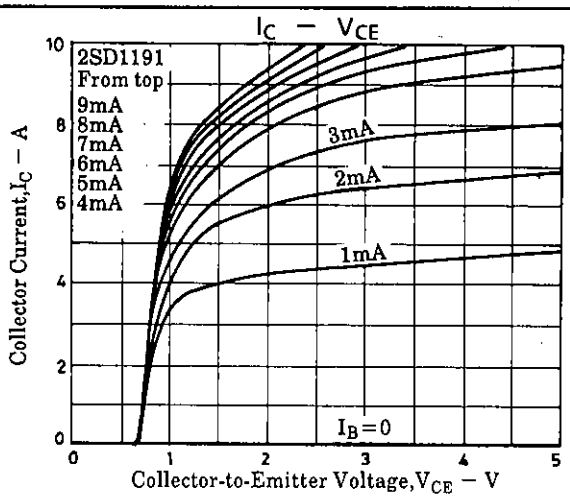
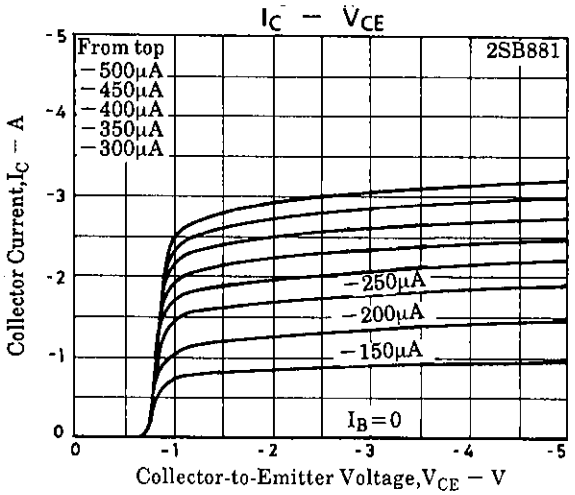
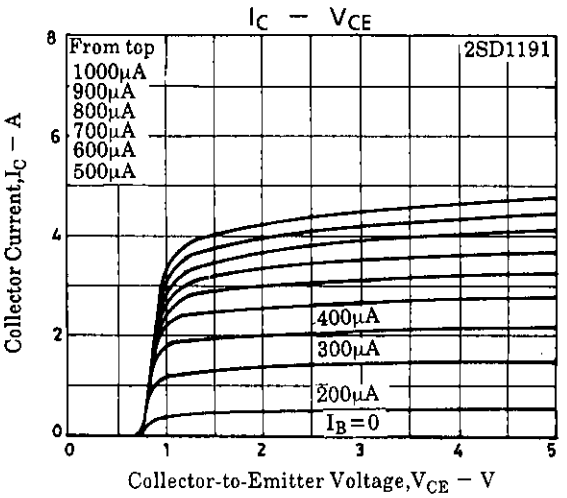
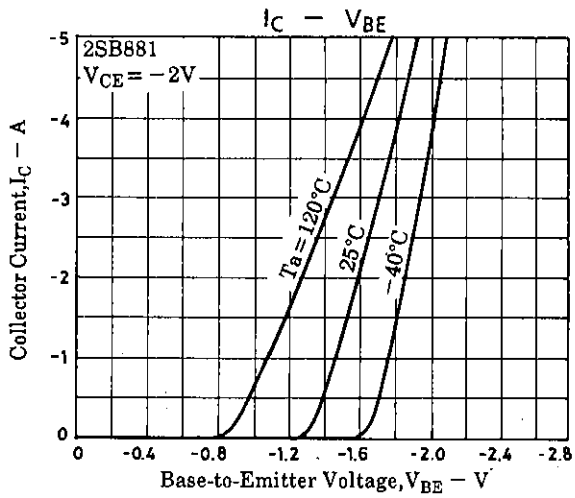
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

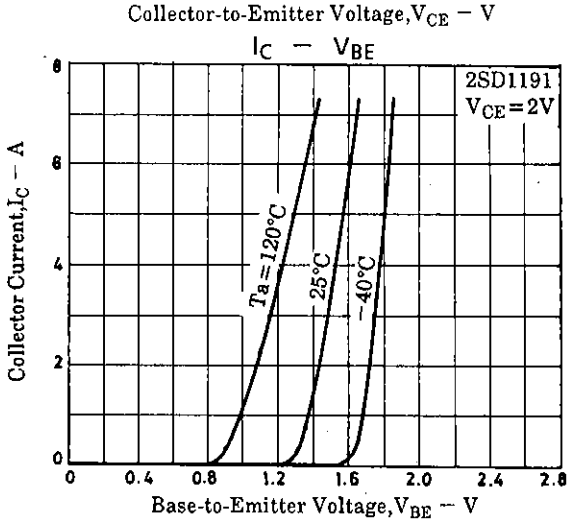

I_C – V_{CE}
2SB881
From top
−5.0mA
−4.5mA
−4.0mA
−3.5mA
−3.0mA
−2.5mA
−2.0mA
−1.5mA
−1.0mA
−0.5mA
I_B=0
Collector Current, I_C – A
Collector-to-Emitter Voltage, V_{CE} – V

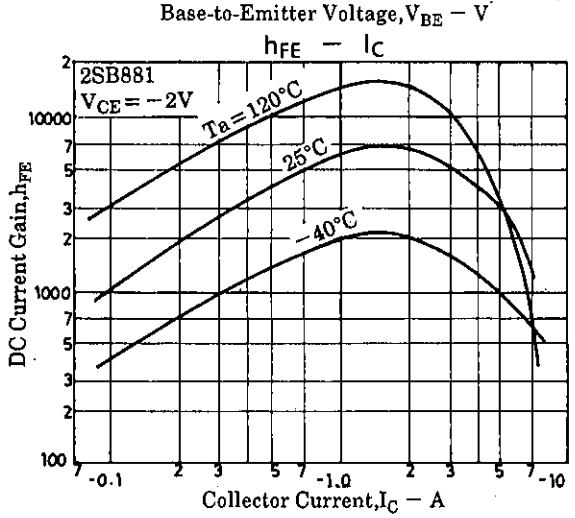

I_C – V_{CE}
2SD1191
From top
9mA
8mA
7mA
6mA
5mA
4mA
3mA
2mA
1mA
I_B=0
Collector Current, I_C – A
Collector-to-Emitter Voltage, V_{CE} – V

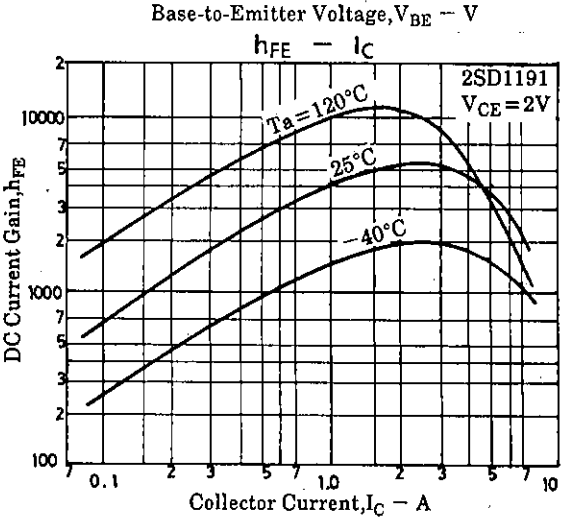

I_C – V_{CE}
2SB881
From top
−500μA
−450μA
−400μA
−350μA
−300μA
−250μA
−200μA
−150μA
I_B=0
Collector Current, I_C – A
Collector-to-Emitter Voltage, V_{CE} – V


I_C – V_{CE}
2SD1191
From top
1000μA
900μA
800μA
700μA
600μA
500μA
400μA
300μA
200μA
I_B=0
Collector Current, I_C – A
Collector-to-Emitter Voltage, V_{CE} – V

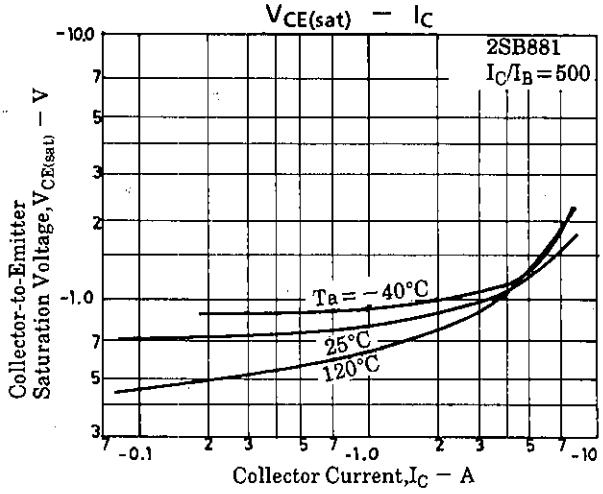

I_C – V_{BE}
2SB881
V_{CE} = −2V
Ta=120°C
25°C
−40°C
Collector Current, I_C – A
Base-to-Emitter Voltage, V_{BE} – V


I_C – V_{BE}
2SD1191
V_{CE} = 2V
Ta=120°C
25°C
−40°C
Collector Current, I_C – A
Base-to-Emitter Voltage, V_{BE} – V

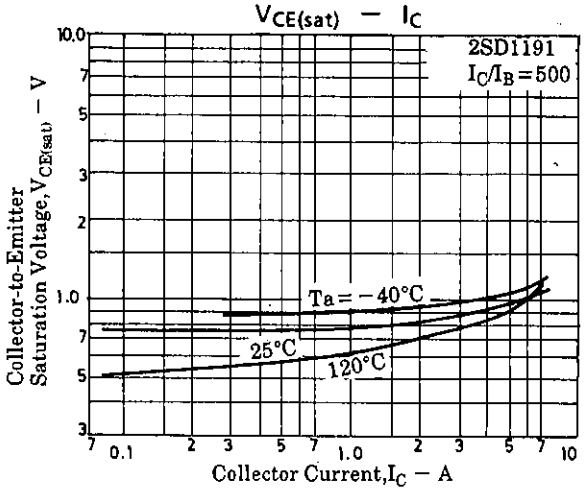

h_{FE} – I_C
2SB881
V_{CE} = −2V
Ta=120°C
25°C
−40°C
DC Current Gain, h_{FE}
Collector Current, I_C – A


h_{FE} – I_C
2SD1191
V_{CE} = 2V
Ta=120°C
25°C
−40°C
DC Current Gain, h_{FE}
Collector Current, I_C – A

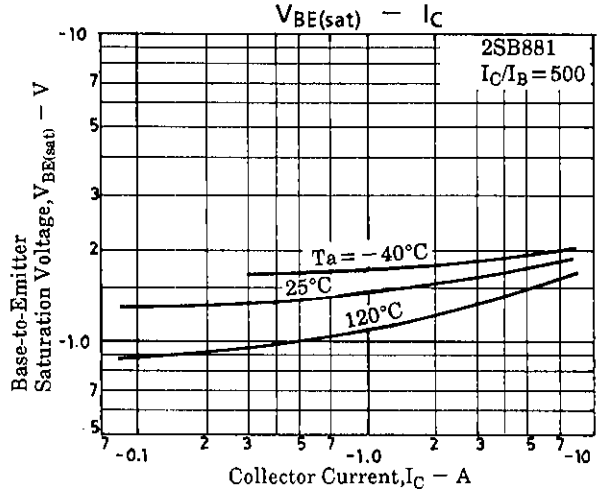
$V_{CE(sat)}$ – I_C



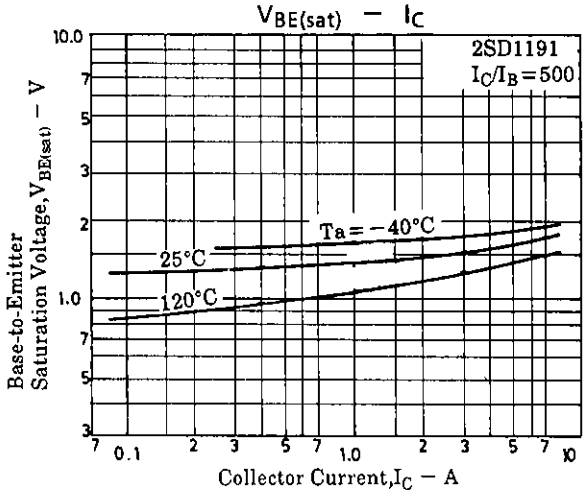
$V_{CE(sat)}$ – I_C



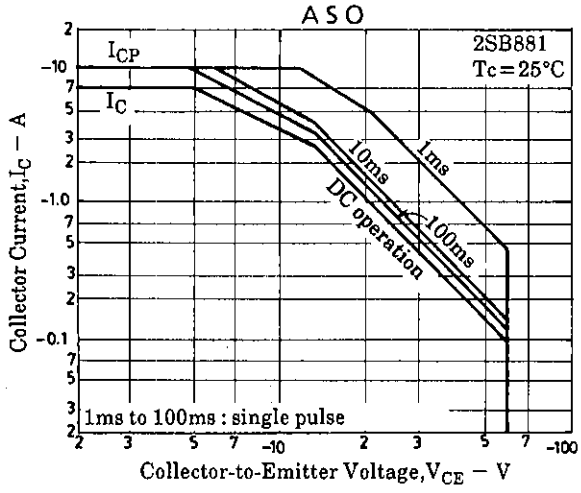
$V_{BE(sat)}$ – I_C



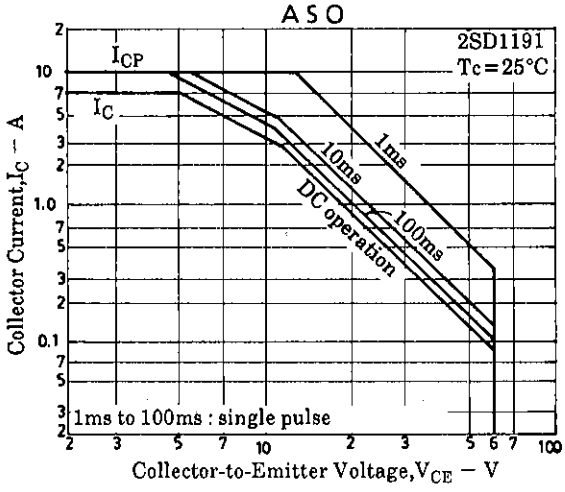
$V_{BE(sat)}$ – I_C



ASO



ASO



P_C – Tc