Ordering number:927E

PNP/NPN Epitaxial Planar Silicon Darlington Transistors

2SB885/2SD1195

Driver Applications

Applications

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

Features

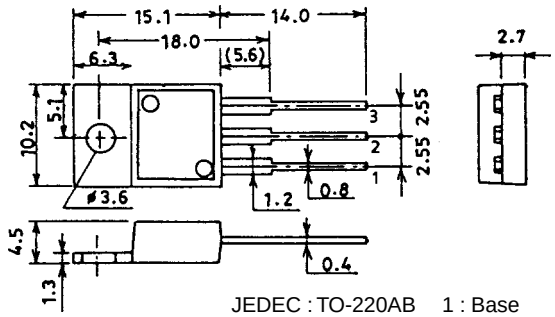
· High DC current gain.
· High current capacity and wide ASO.
· Low saturation voltage.

Package Dimensions

unit:mm

2010C

[2SB885/2SD1195]



JEDEC : TO-220AB
EIAJ : SC-46

1 : Base
2 : Collector
3 : Emitter

( ) : 2SB885

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)110	V
Collector-to-Emitter Voltage	V_{CEO}		(–)100	V
Emitter-to-Base Voltage	V_{EBO}		(–)6	V
Collector Current	I_C		(–)5	A
Collector Current (Pulse)	I_{CP}		(–)8	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

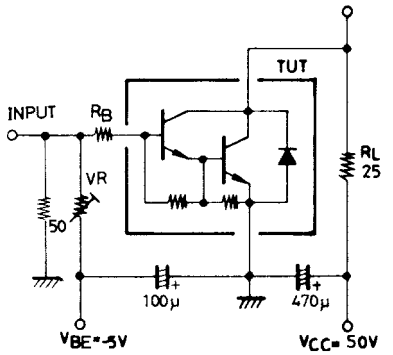
Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)80V, 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}=(–)3V, I_C=(–)2.5A	1500	4000		
Gain-Bandwidth Product	f_T	V_{CE}=(–)5V, I_C=(–)2.5A		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)2.5A, I_B=(–)5mA		0.9	(–)1.5	V
				(–1.0)		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)2.5A, I_B=(–)5mA			(–)2.0	V

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)5mA, I_E=0	(–)110			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)50mA, R_{BE}=∞	(–)100			V
Turn-ON Time	t_{on}	See specified Test Circuit		(0.7)		μs
				0.6		μs
Storage Time	t_{stg}	See specified Test Circuit		(1.3)		μs
				4.8		μs
Fall Time	t_f	See specified Test Circuit		(1.5)		μs
				1.6		μs

Switching Time Test Circuit



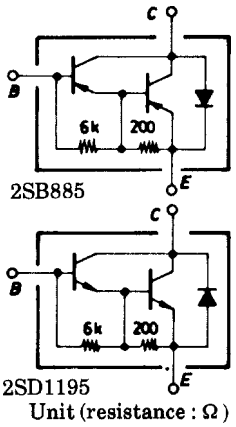
Unit (resistance : Ω, capacitance : F)

(For PNP, the polarity is reversed.)

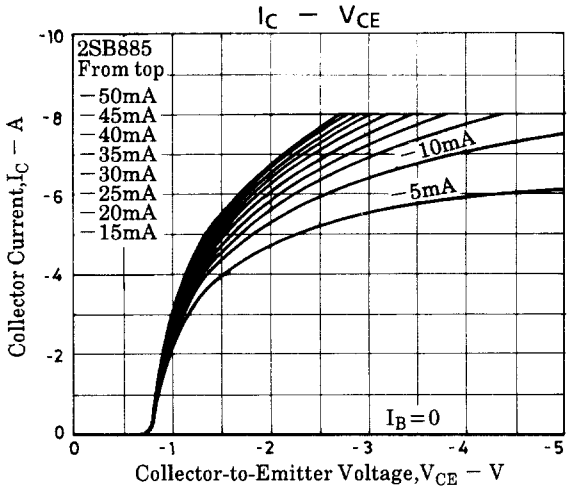
PW=50μs, Duty Cycle≦1%

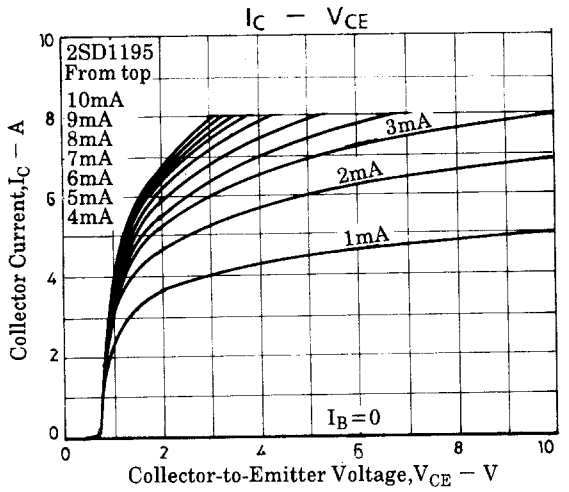
$500I_B1 = -500I_B2 = I_C = 2A$

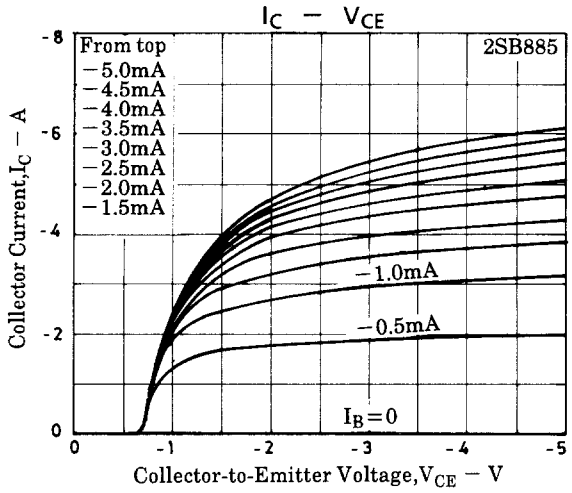
Electrical Connection

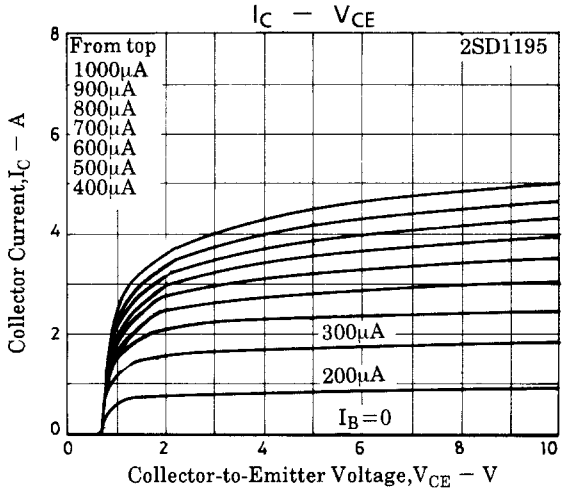


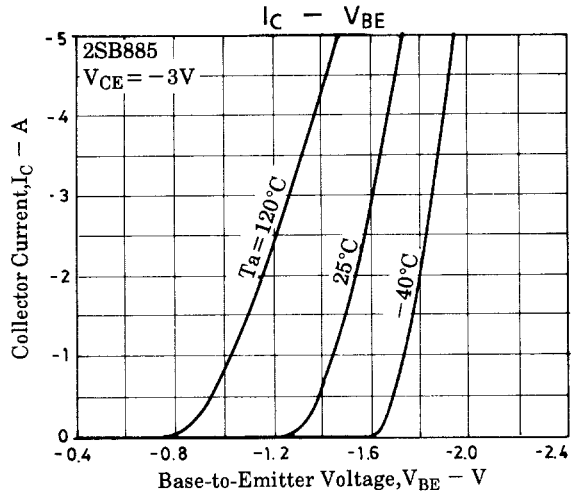
Unit (resistance : Ω)

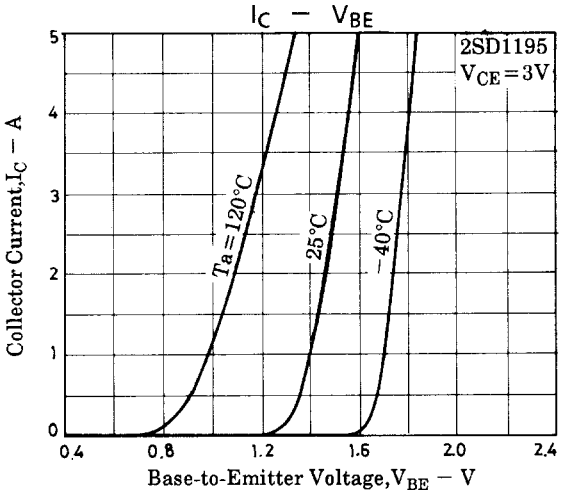


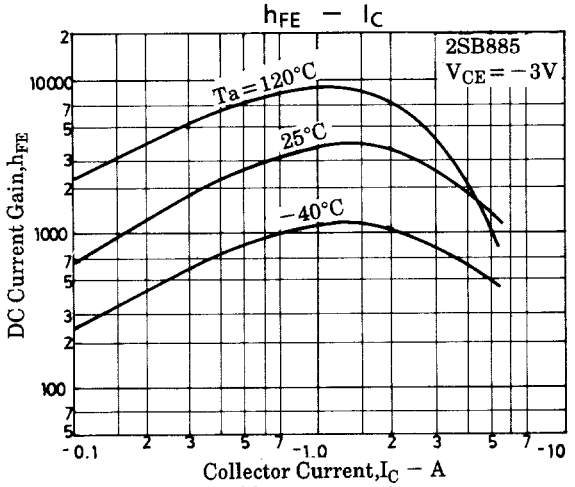


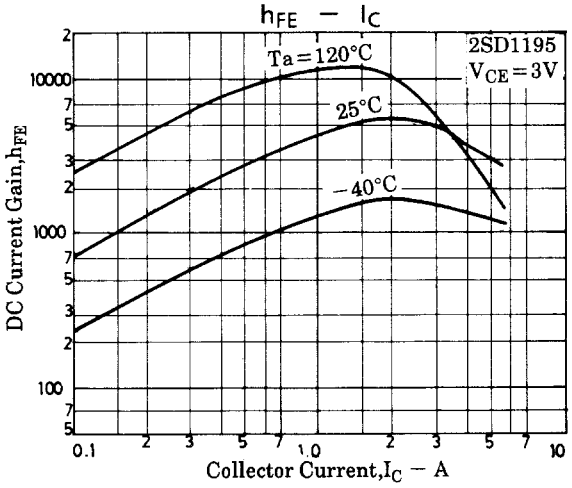


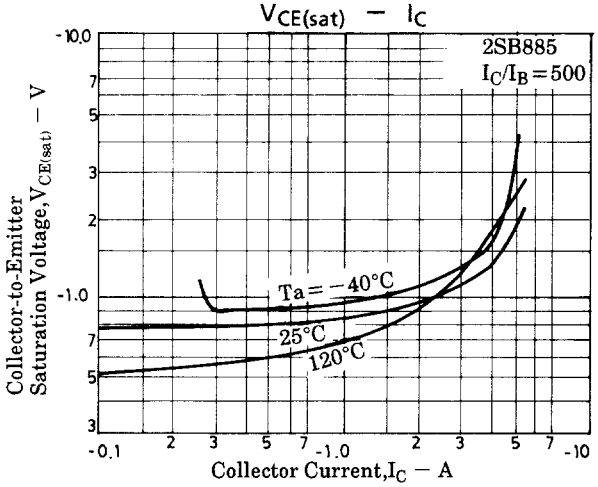


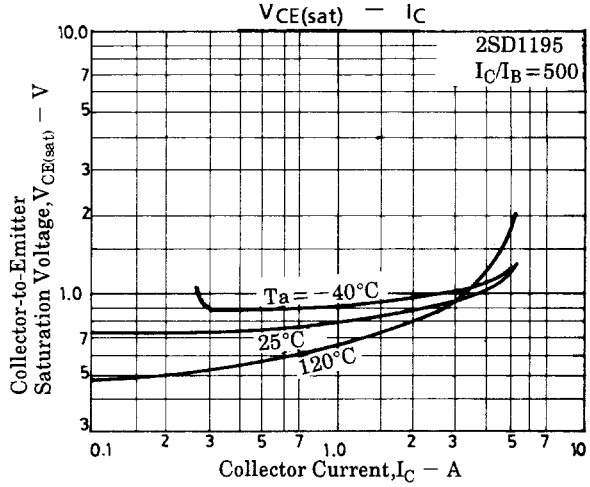

I_C – V_{BE}
2SB885
V_{CE} = –3V
Ta=120°C
25°C
–40°C
Collector Current, I_C – A
Base-to-Emitter Voltage, V_{BE} – V

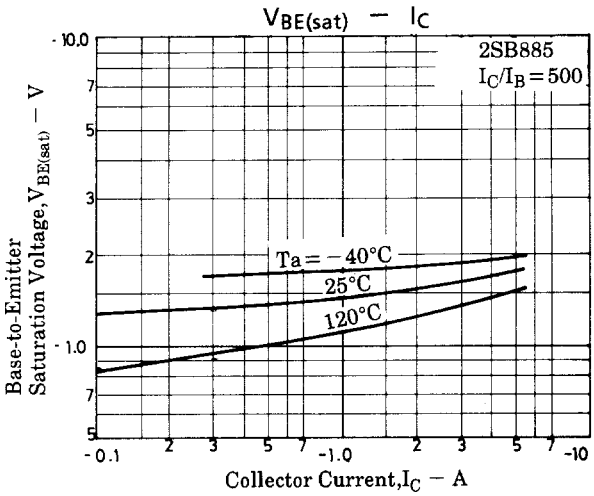

I_C – V_{BE}
2SD1195
V_{CE} = 3V
Ta=120°C
25°C
–40°C
Collector Current, I_C – A
Base-to-Emitter Voltage, V_{BE} – V

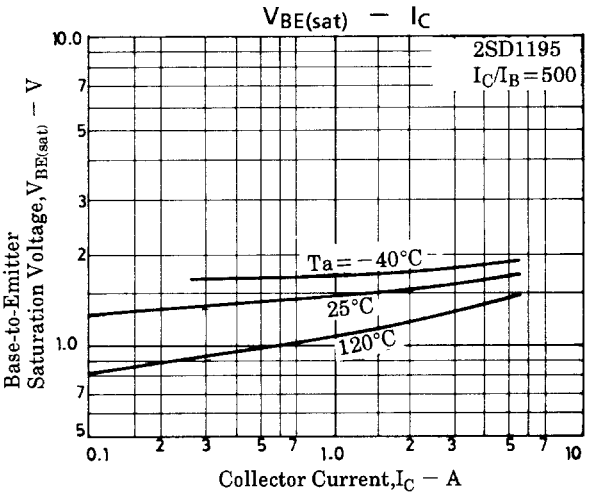

h_{FE} – I_C
2SB885
V_{CE} = –3V
Ta=120°C
25°C
–40°C
DC Current Gain, h_{FE}
Collector Current, I_C – A


h_{FE} – I_C
2SD1195
V_{CE} = 3V
Ta=120°C
25°C
–40°C
DC Current Gain, h_{FE}
Collector Current, I_C – A


$V_{CE(sat)}$ – I_C
2SB885
I_C/I_B = 500
Ta=–40°C
25°C
120°C
Collector-to-Emitter Saturation Voltage, $V_{CE(sat)}$ – V
Collector Current, I_C – A


$V_{CE(sat)}$ – I_C
2SD1195
I_C/I_B = 500
Ta=–40°C
25°C
120°C
Collector-to-Emitter Saturation Voltage, $V_{CE(sat)}$ – V
Collector Current, I_C – A


$V_{BE(sat)}$ – I_C
2SB885
I_C/I_B = 500
Ta=–40°C
25°C
120°C
Base-to-Emitter Saturation Voltage, $V_{BE(sat)}$ – V
Collector Current, I_C – A


$V_{BE(sat)}$ – I_C
2SD1195
I_C/I_B = 500
Ta=–40°C
25°C
120°C
Base-to-Emitter Saturation Voltage, $V_{BE(sat)}$ – V
Collector Current, I_C – A