Ordering number : ENN7380

PNP/NPN Epitaxial Planar Silicon Darlington Transistors

2SB1700 / 2SD2663

Driver Applications

Applications

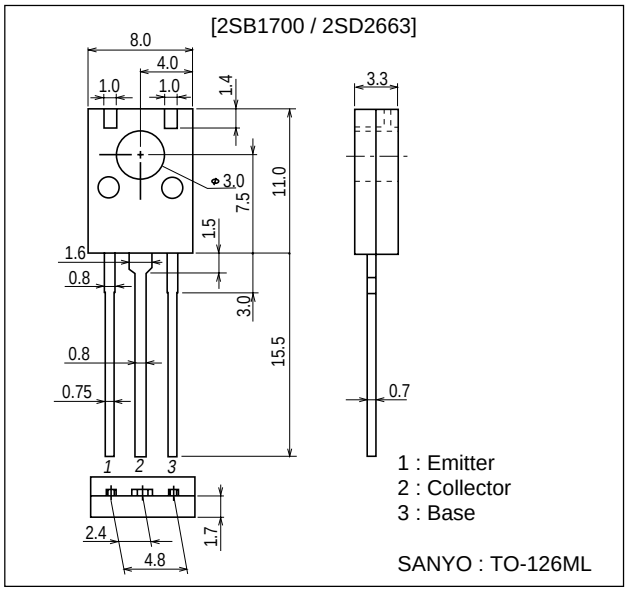
- Motor drivers, printer hammer drivers, relay drivers, voltage regulator control.

Features

- High DC current gain.
- Large current capacity and wide ASO.
- Micaless package facilitating mounting.

Package Dimensions

unit : mm
2042B



( ) : 2SB1700

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		(-)3	A
Collector Current (Pulse)	I_{CP}		(-)5	A
Collector Dissipation	P_C		1.5	W
		Tc=25°C	10	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

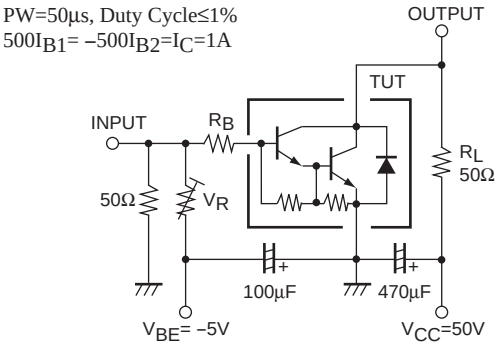
Continued on next page.

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

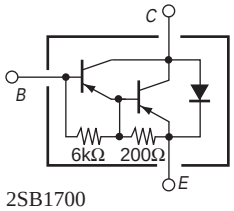
Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE}	V_{CE}=(-)3V, I_C=(-)1.5A	1500	4000		
Gain-Bandwidth Product	f_T	V_{CE}=(-)5V, I_C=(-)1.5A		20		MHz
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=(-)1.5A, I_B=(-)3mA		(-1.0)0.9	(-)1.5	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=(-)1.5A, I_B=(-)3mA			(-)2.0	V
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.		(0.8)0.7		μs
Storage Time	t_{stg}	See specified Test Circuit.		(2.4)5.0		μs
Fall Time	t_f	See specified Test Circuit.		1.2		μs

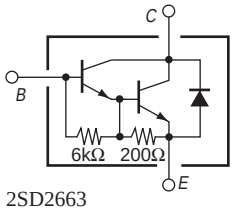
Specified Test Circuit (For PNP, the polarity is reversed.)



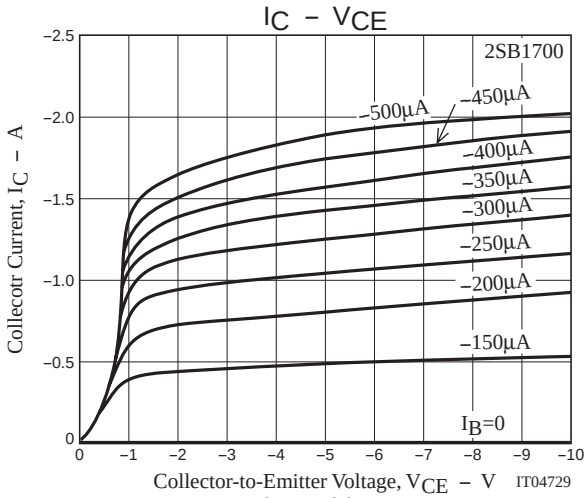
Electrical Connection

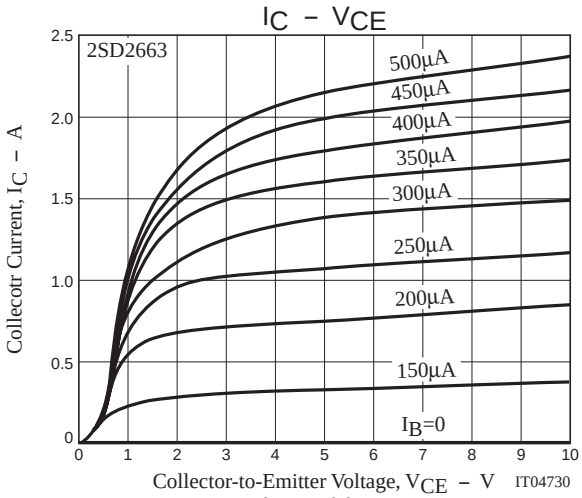


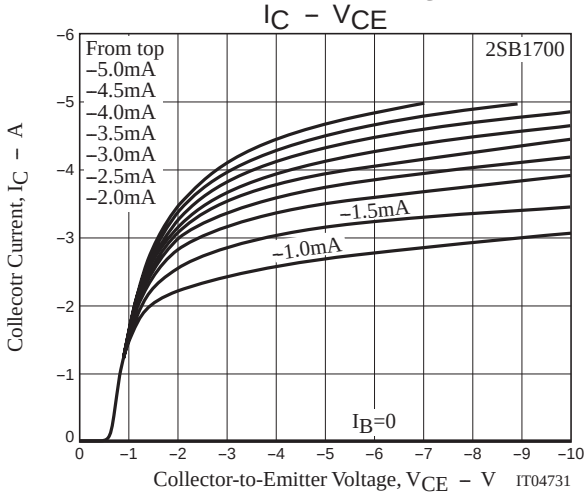
2SB1700

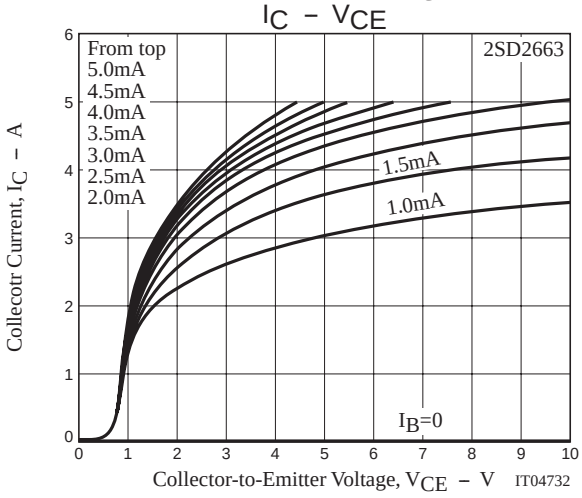


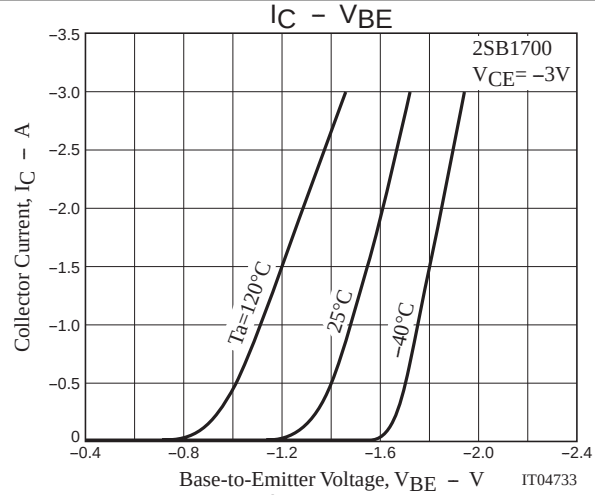
2SD2663

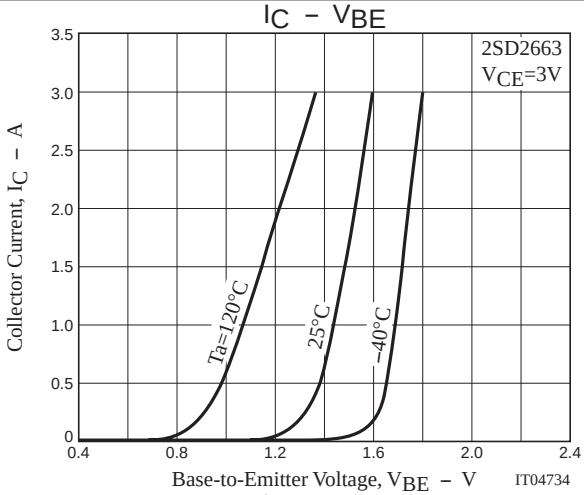


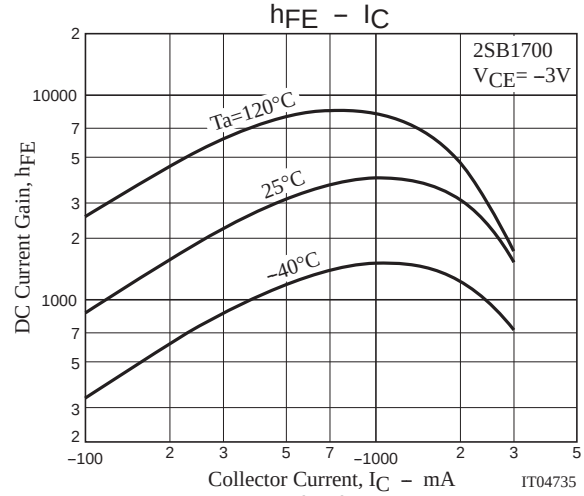


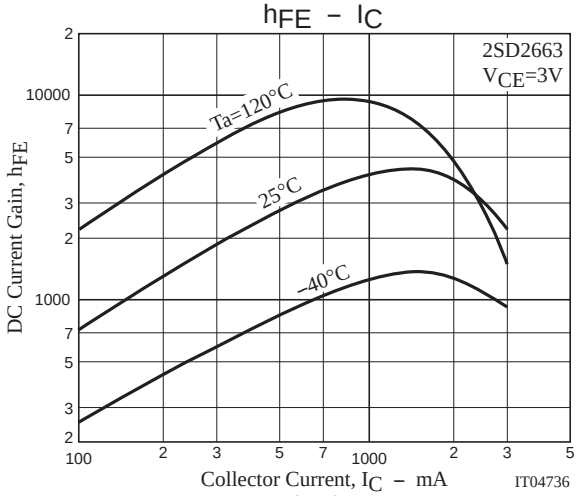


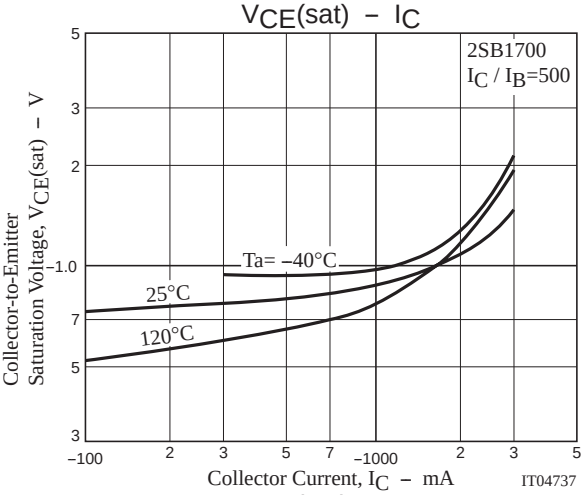


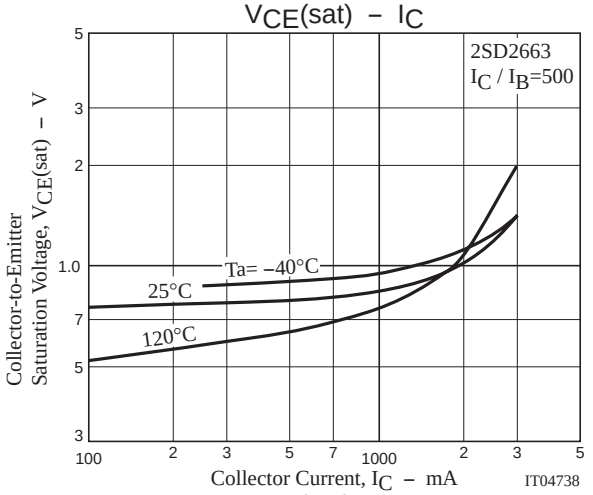

IC – VBE
2SB1700
VCE= –3V
Collector Current, IC – A
Ta=120°C
25°C
–40°C
Base-to-Emitter Voltage, VBE – V
IT04733

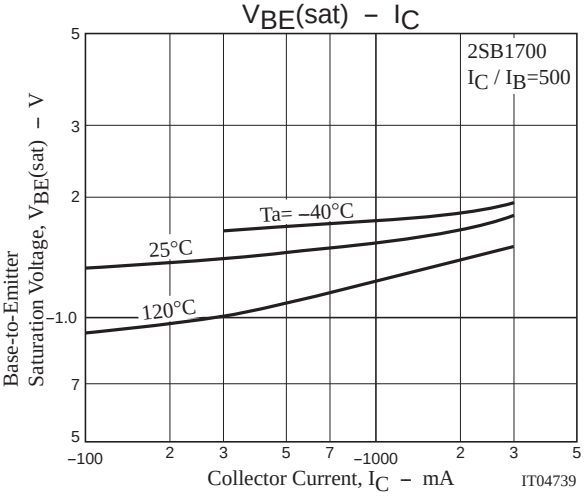

IC – VBE
2SD2663
VCE=3V
Collector Current, IC – A
Ta=120°C
25°C
–40°C
Base-to-Emitter Voltage, VBE – V
IT04734

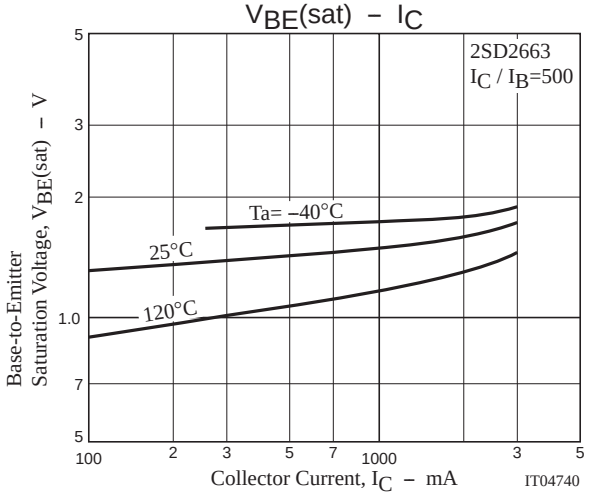

hFE – IC
2SB1700
VCE= –3V
DC Current Gain, hFE
Ta=120°C
25°C
–40°C
Collector Current, IC – mA
IT04735

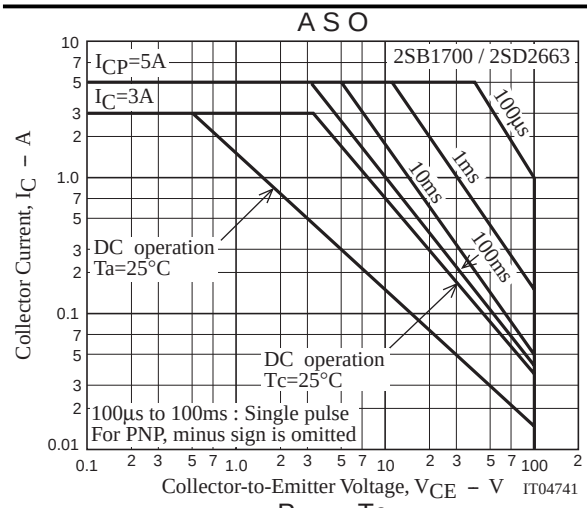

hFE – IC
2SD2663
VCE=3V
DC Current Gain, hFE
Ta=120°C
25°C
–40°C
Collector Current, IC – mA
IT04736

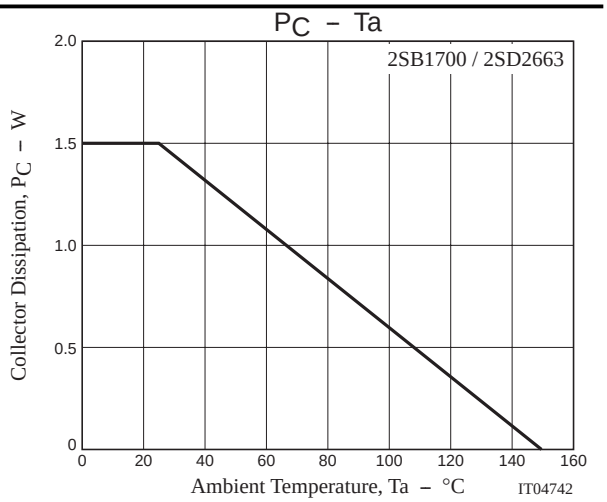

VCE(sat) – IC
2SB1700
IC / IB=500
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Ta= –40°C
25°C
120°C
Collector Current, IC – mA
IT04737

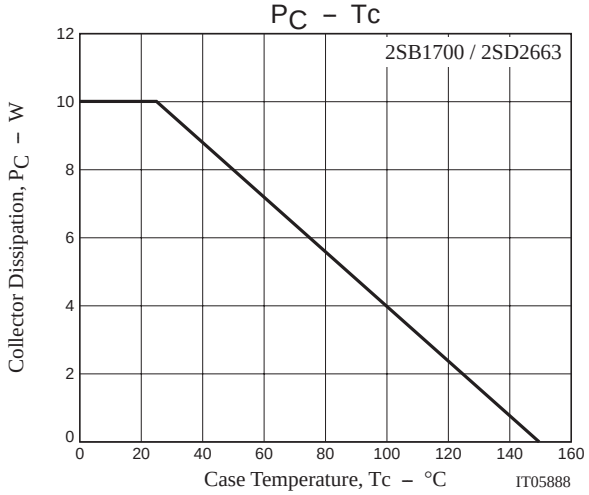

VCE(sat) – IC
2SD2663
IC / IB=500
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Ta= –40°C
25°C
120°C
Collector Current, IC – mA
IT04738


VBE(sat) – IC
2SB1700
IC / IB=500
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Ta= –40°C
25°C
120°C
Collector Current, IC – mA
IT04739


VBE(sat) – IC
2SD2663
IC / IB=500
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Ta= –40°C
25°C
120°C
Collector Current, IC – mA
IT04740







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