Ordering number:EN2212B

PNP/NPN Epitaxial Planar Silicon Darlington Transistors

2SB1226/2SD1828

Driver Applications

Applications

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

Features

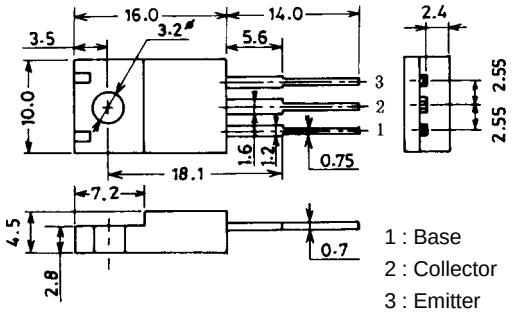
· High DC current gain.
· Large current capcity and wide ASO.
· Micaless pakcage facilitating mounting.

Package Dimensions

unit:mm

2041A

[2SB1226/2SD1828]



1 : Base
2 : Collector
3 : Emitter

SANYO : TO-220ML

( ) : 2SB1226

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		2.0	W
		Tc=25˚C	20	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

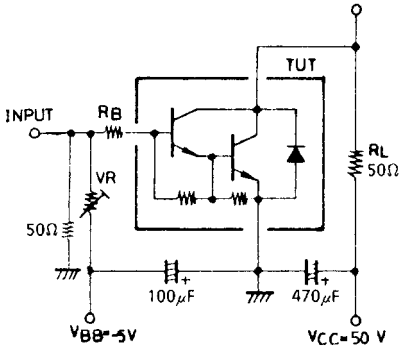
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)80V, I_E=0			(–)0.1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)5V, I_C=0			(–)3.0	mA
DC Current Gain	h_{FE}	V_{CE}=(–)3V, I_C=(–)1.5A	1500	4000		
Gain-Bandwidth Product	f_T	V_{CE}=(–)5V, I_C=(–)1.5A		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)1.5A, I_B=(–)3mA		0.9	(–)1.5	V
				(–1.0)		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)1.5A, I_B=(–)3mA			(–)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		0.8		μs
				(0.7)		μs
Storage Time	t_{stg}	See specified Test Circuit		5.0		μs
				(2.4)		μs
Fall Time	t_f	See specified Test Circuit		1.2		μs
				(1.2)		μs

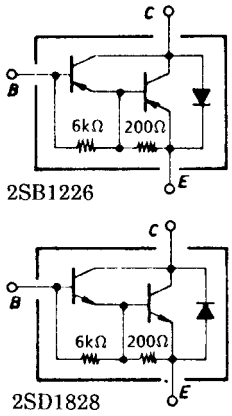
Switching Time Test Circuit

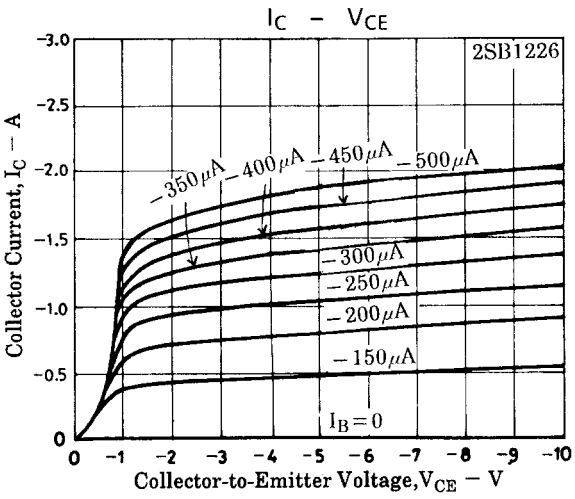
PW = 50μs, Duty Cycle ≦ 1%
500I_B1 = −500I_B2 = I_C = 1A

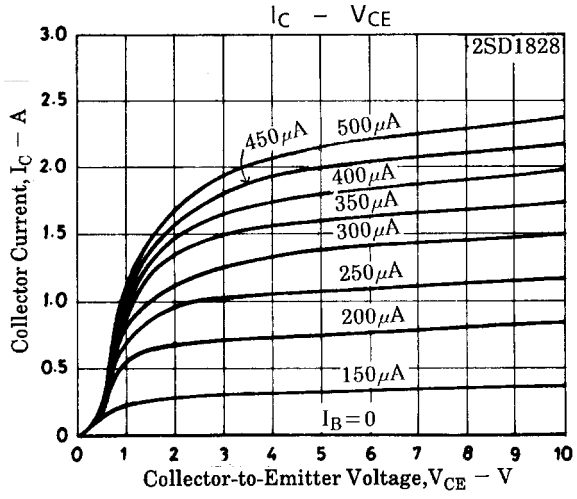


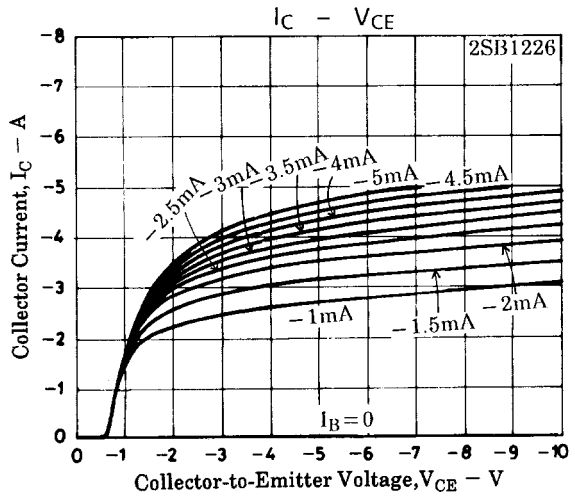
(For PNP, the polarity is reversed.)

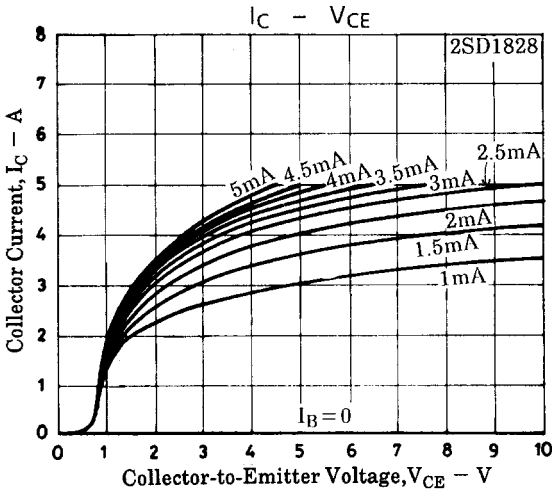
Electrical Connection

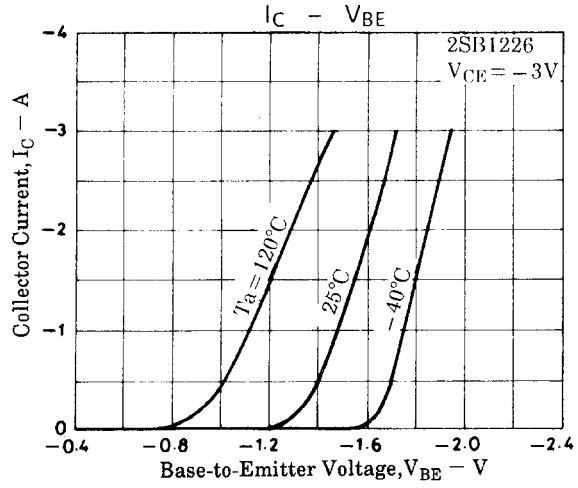


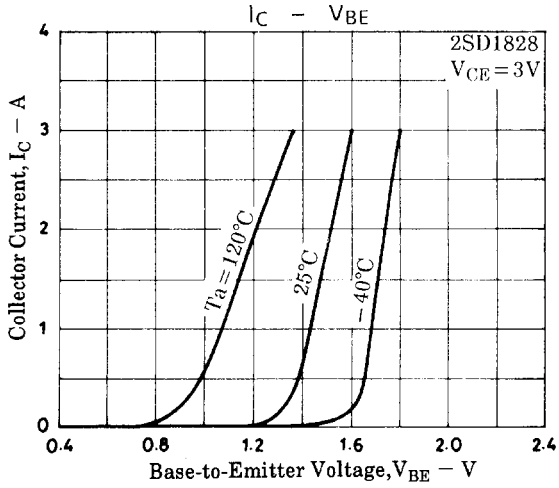


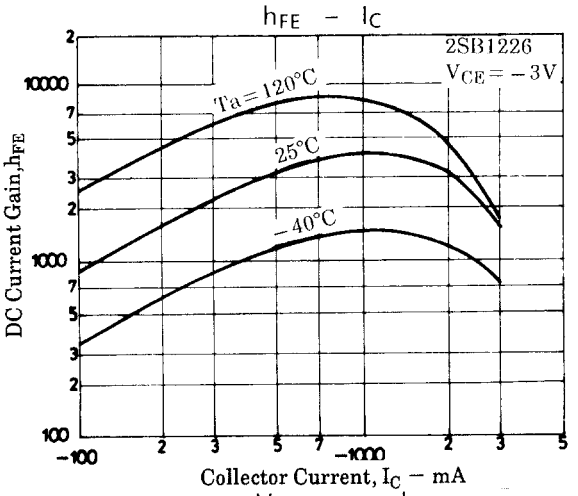


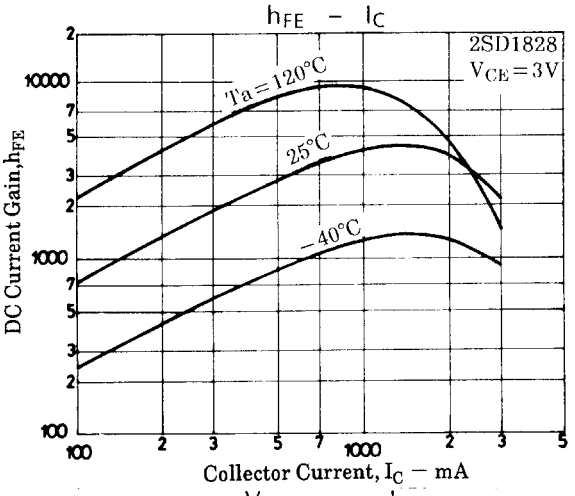


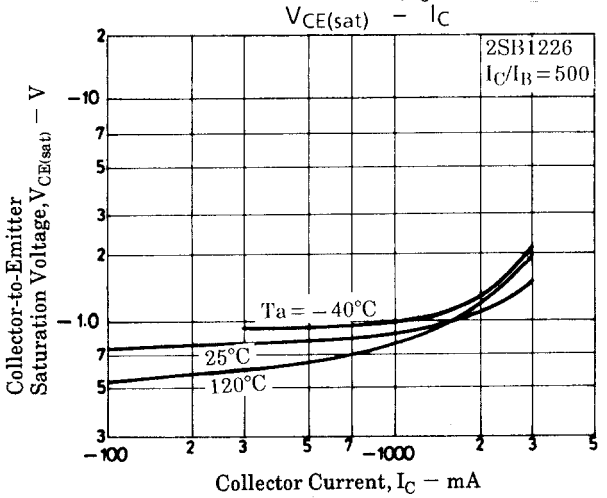


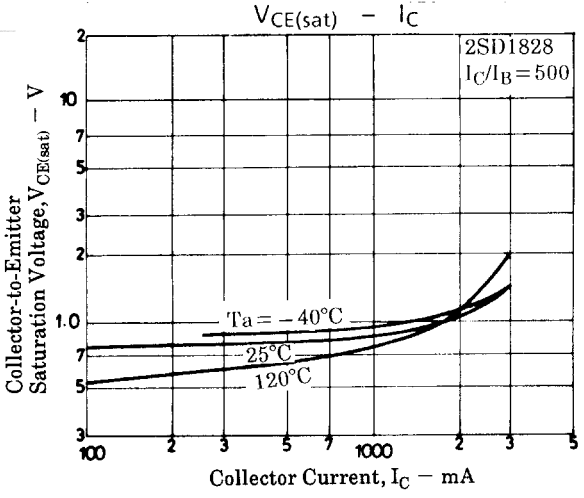

IC – VBE
2SB1226
VCE = –3V
Collector Current, IC – A
Ta = 120°C
25°C
– 40°C
Base-to-Emitter Voltage, VBE – V

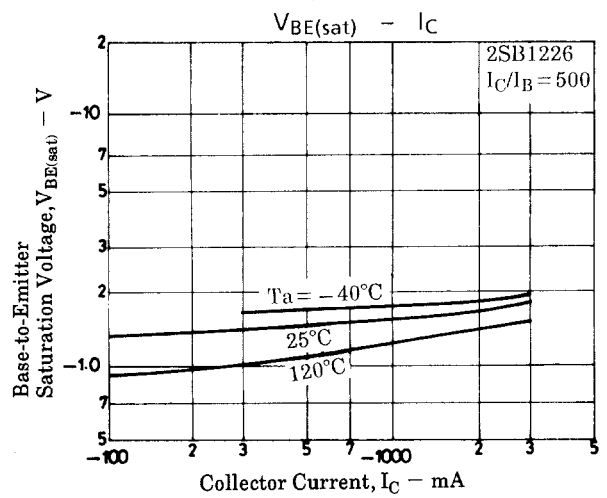

IC – VBE
2SD1828
VCE = 3V
Collector Current, IC – A
Ta = 120°C
25°C
– 40°C
Base-to-Emitter Voltage, VBE – V

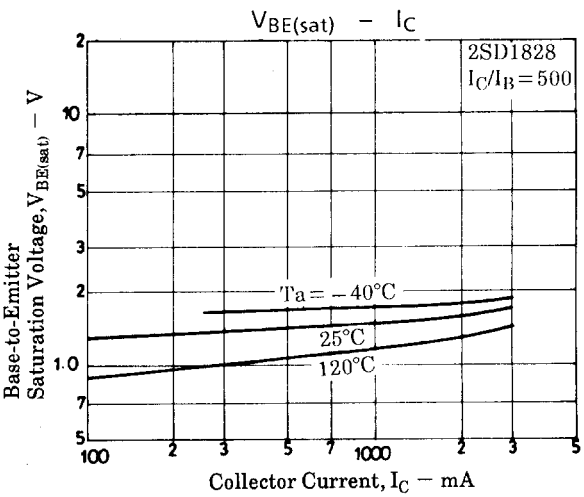

hFE – IC
2SB1226
VCE = –3V
DC Current Gain, hFE
Ta = 120°C
25°C
– 40°C
Collector Current, IC – mA


hFE – IC
2SD1828
VCE = 3V
DC Current Gain, hFE
Ta = 120°C
25°C
– 40°C
Collector Current, IC – mA


VCE(sat) – IC
2SB1226
IC/IB = 500
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Ta = – 40°C
25°C
120°C
Collector Current, IC – mA


VCE(sat) – IC
2SD1828
IC/IB = 500
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Ta = – 40°C
25°C
120°C
Collector Current, IC – mA


VBE(sat) – IC
2SB1226
IC/IB = 500
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Ta = – 40°C
25°C
120°C
Collector Current, IC – mA


VBE(sat) – IC
2SD1828
IC/IB = 500
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Ta = – 40°C
25°C
120°C
Collector Current, IC – mA