Ordering number:EN2210B

PNP/NPN Epitaxial Planar Silicon Darlington Transistors

2SB1224/2SD1826

Driver Applications

Applications

· Suitable for use in control of motor drivers, printer hammer drivers, relay drivers, and constant-voltage regulators.

Features

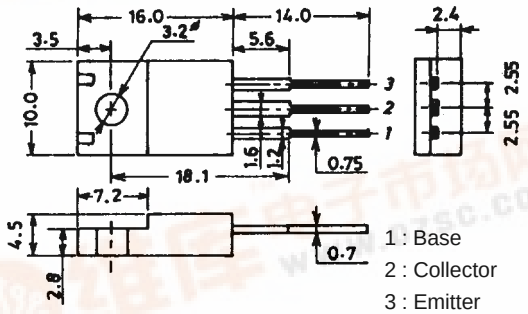
· High DC current gain.
· Large current capacity and wide ASO.
· Micaless package facilitaing mounting.

Package Dimensions

unit:mm

2041A

[2SB1224/2SD1826]



SANYO : TO-220ML

( ) : 2SB1224

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	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		2.0	W
		Tc=25˚C	25	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}=(–)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
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)3.5A, I_B=(–)7mA		0.9	(–)1.5	V
				(–1.0)		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)3.5A, I_B=(–)7mA			(–)2.0	V

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
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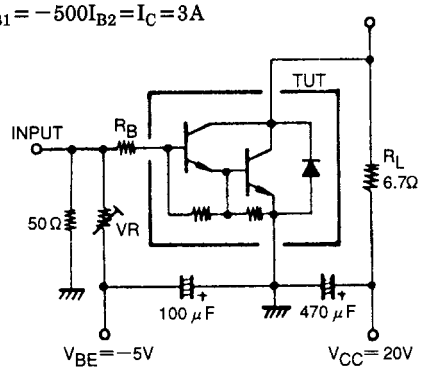
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)5mA, I_E=0	(–)70			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)50mA, R_{BE}=∞	(–)60			V
Turn-ON Time	t_{on}	See specified Test Circuit		0.6		μs
				(0.5)		μs
Storage Time	t_{stg}	See specified Test Circuit		3.0		μs
				(1.5)		μs
Fall Time	t_f	See specified Test Circuit		1.7		μs
				(1.4)		μs

Switching Time Test Circuit

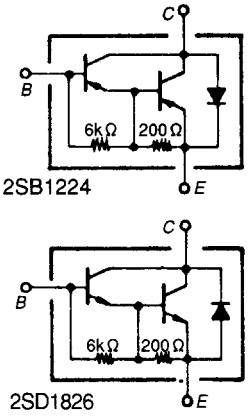
PW=50μs, Duty cycle ≦1%

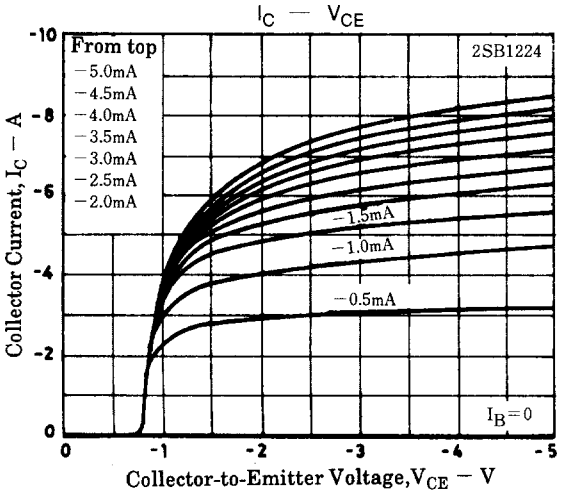
$500I_{B1}=-500I_{B2}=I_C=3A$

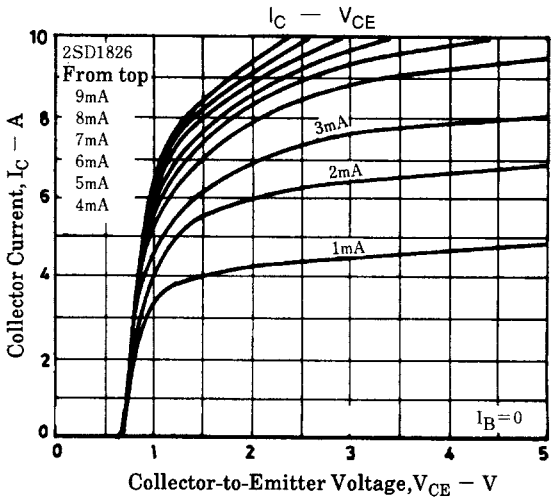


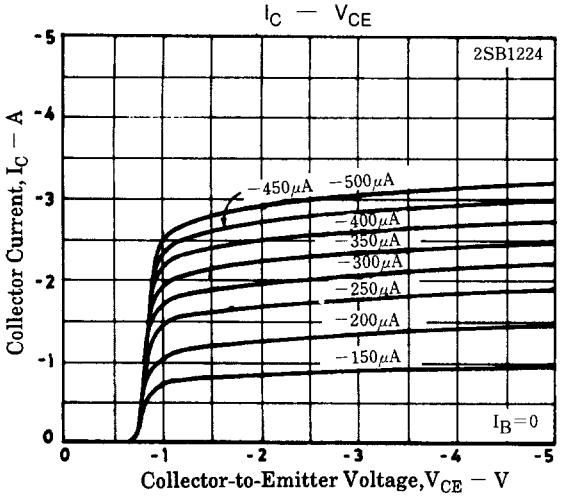
(For PNP, the polarity is reversed.)

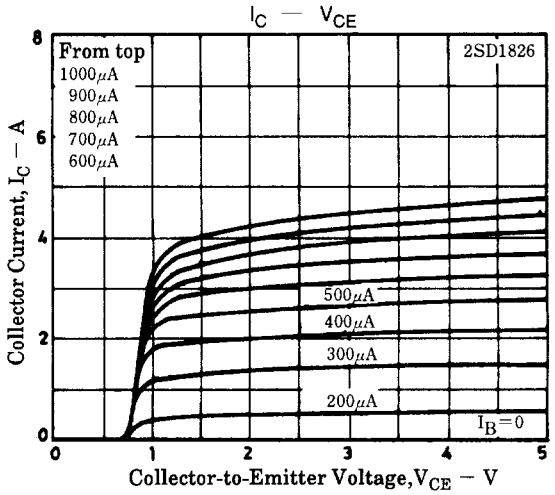
Electrical Connection



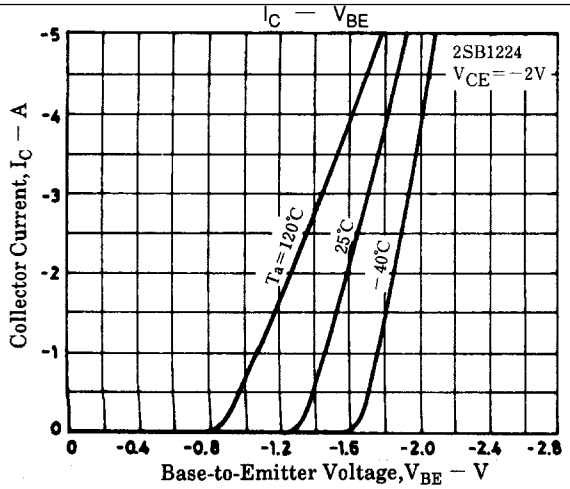




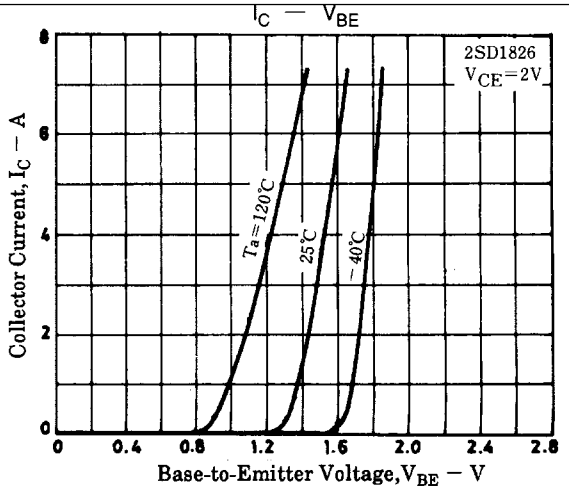




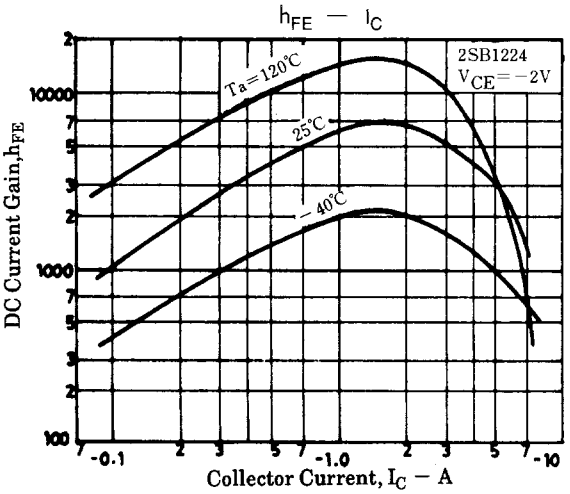
I_C — V_{BE}



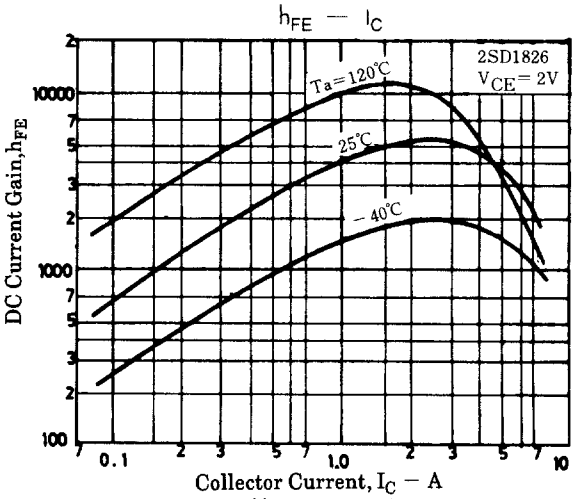
I_C — V_{BE}



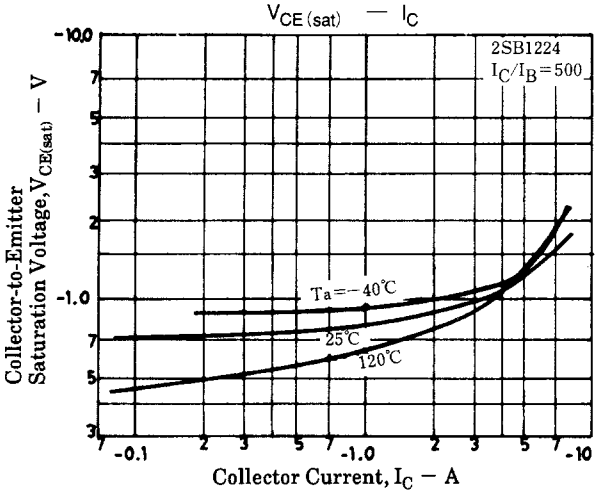
h_{FE} — I_C



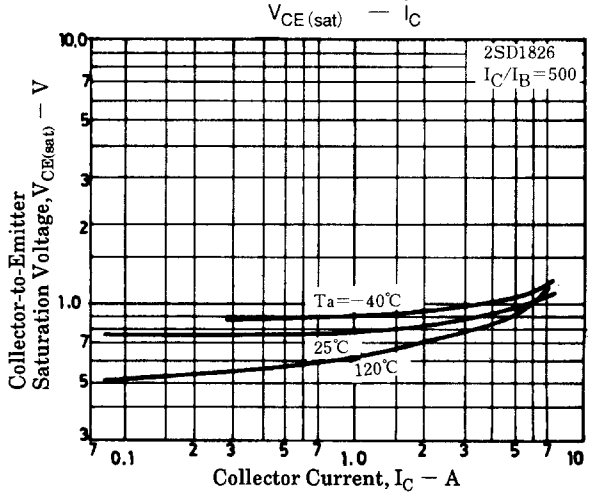
h_{FE} — I_C



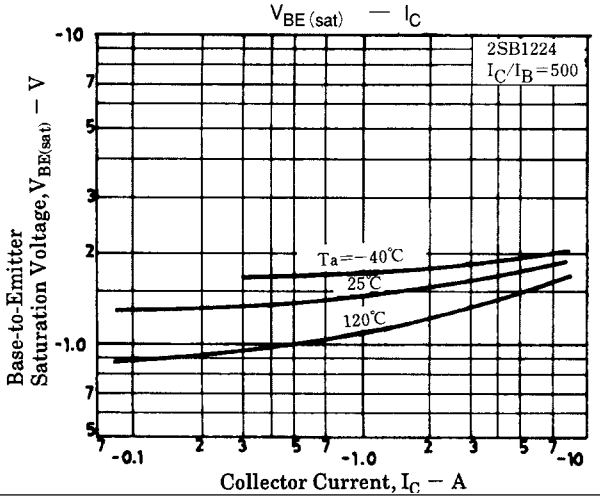
$V_{CE(sat)}$ — I_C



$V_{CE(sat)}$ — I_C



$V_{BE(sat)}$ — I_C



$V_{BE(sat)}$ — I_C