Ordering number: EN 2214B

SANYO

No.2214B

2SB1228/2SD1830

PNP/NPN Epitaxial Planar Silicon Darlington Transistor

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.
- Low saturation voltage.
- Micaless package facilitating mounting.

( ) : 2SB1228

Absolute Maximum Ratings at Ta = 25°C

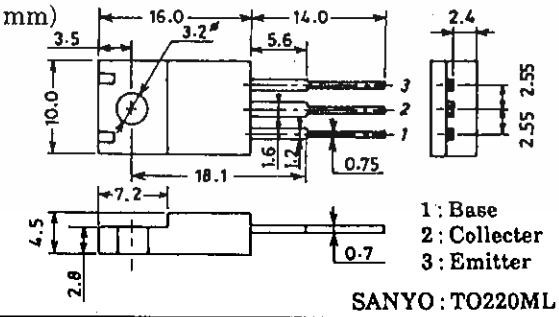
				unit
Collector-to-Base Voltage	V_{CBO}		(−)110	V
Collector-to-Emitter Voltage	V_{CEO}		(−)100	V
Emitter-to-Base Voltage	V_{EBO}		(−)6	V
Collector Current	I_C		(−)8	A
Collector Current (Pulse)	I_{CP}		(−)12	A
Collector Dissipation	P_C		2.0	W
		Tc = 25°C	30	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = (−)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 = (−)4A	1500	4000		
Gain-Bandwidth Product	f_T	V_{CE} = (−)5V, I_C = (−)4A		20		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = (−)4A, I_B = (−)8mA		0.9	(−)1.5	V
				(−1.0)		V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = (−)4A, I_B = (−)8mA			(−)2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = (−)5mA, I_E = 0	(−)110			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = (−)50mA, R_{BE} = ∞	(−)100			V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.6		μs
		〃		(0.7)		μs
Storage Time	t_{stg}	〃		4.8		μs
		〃		(1.4)		μs
Fall Time	t_f	〃		1.6		μs
		〃		(1.5)		μs

Package Dimensions 2041A

(unit : mm)

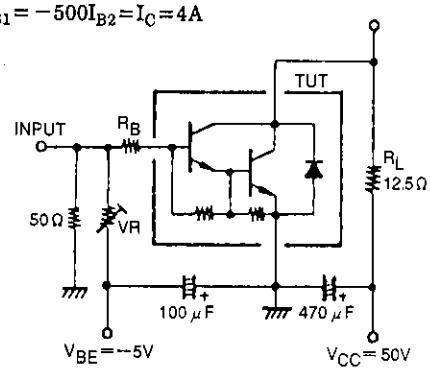


SANYO : TO220ML

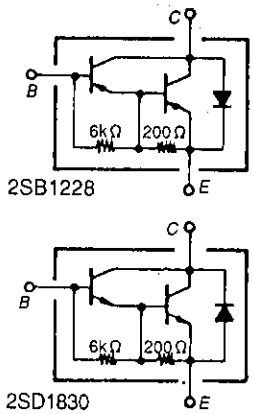
Specified Test Circuit (For PNP, the polarity is reversed.)

PW = 50μs, Duty cycle ≦ 1%

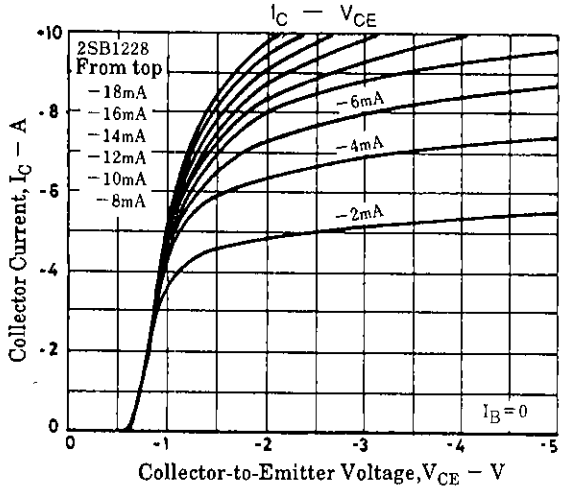
$500I_{B1} = -500I_{B2} = I_C = 4A$



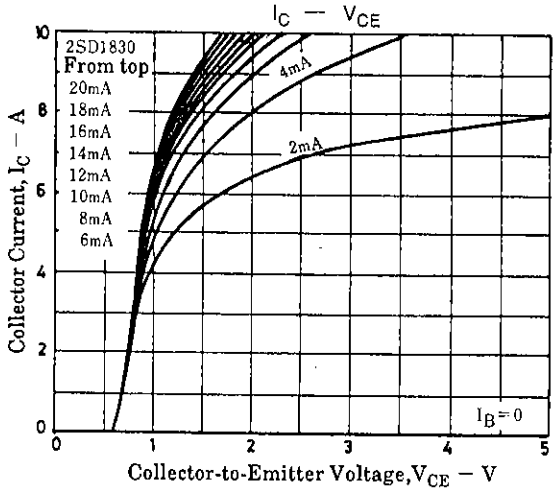
Electrical Connection



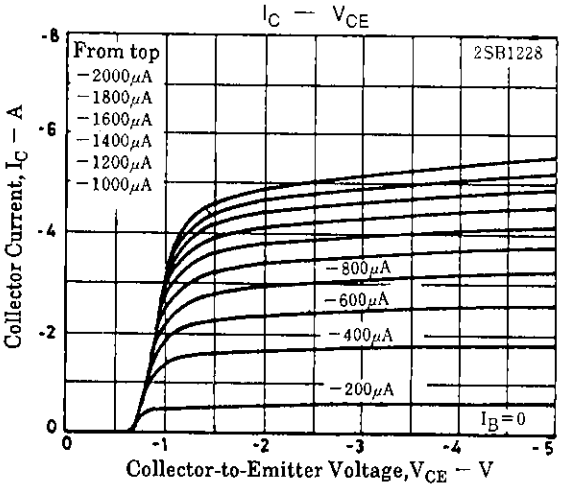
I_C — V_{CE}



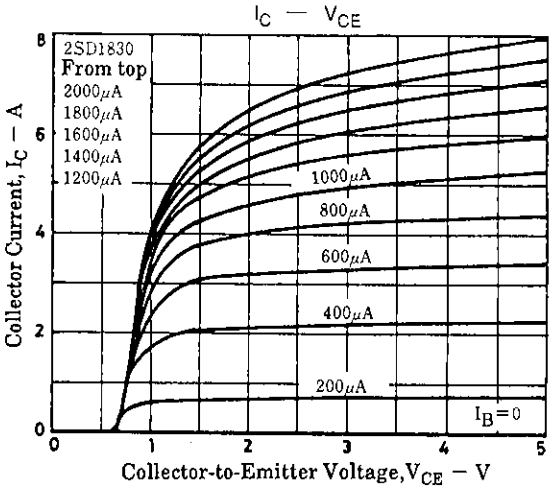
I_C — V_{CE}



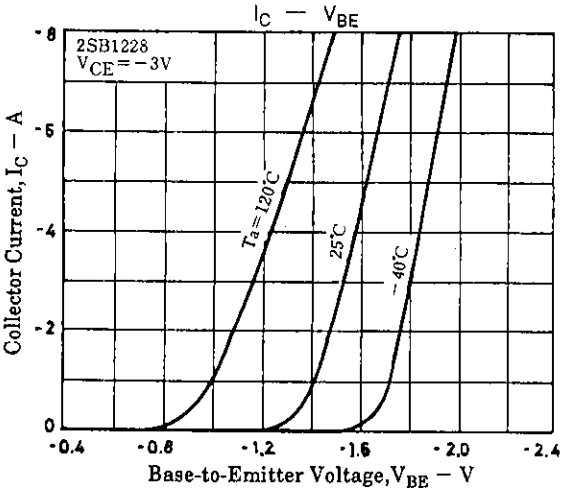
I_C — V_{CE}



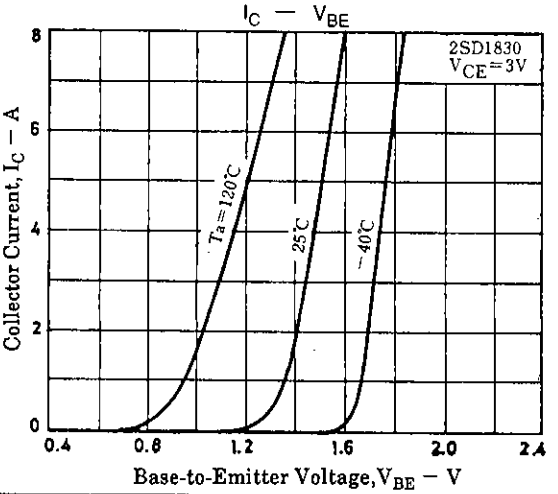
I_C — V_{CE}



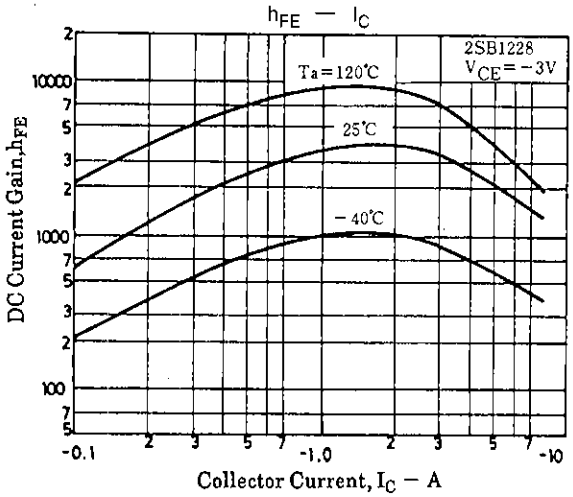
I_C — V_{BE}



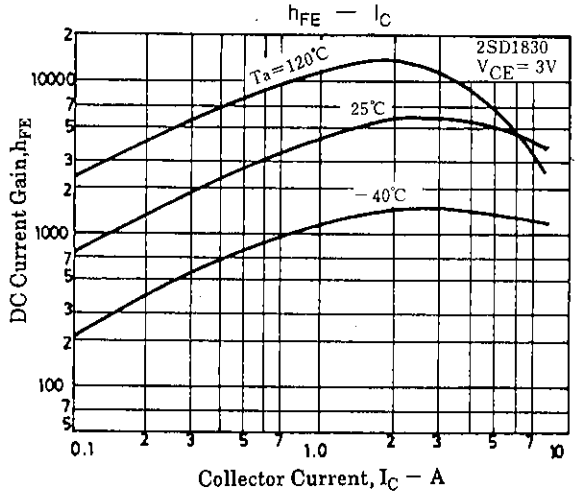
I_C — V_{BE}



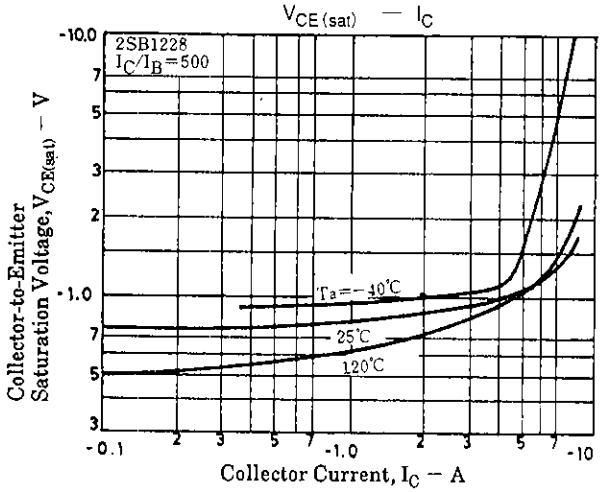
h_{FE} — I_C



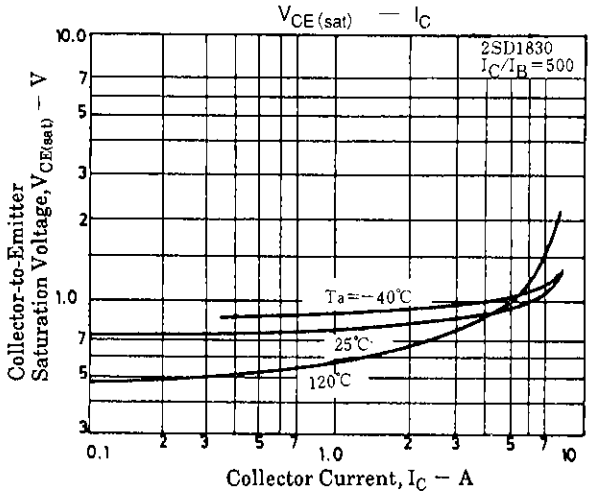
h_{FE} — I_C



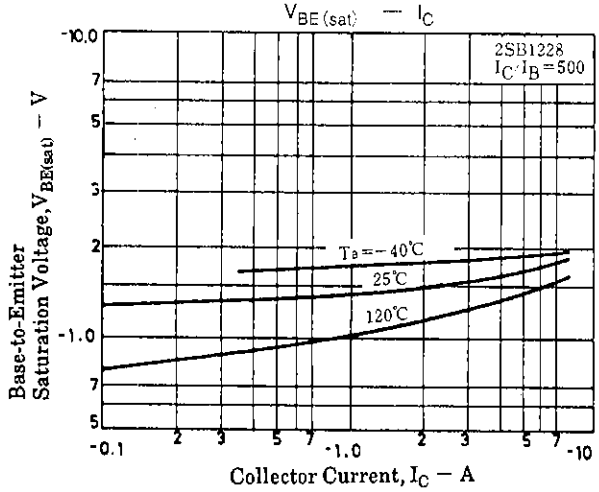
$V_{CE(sat)}$ — I_C



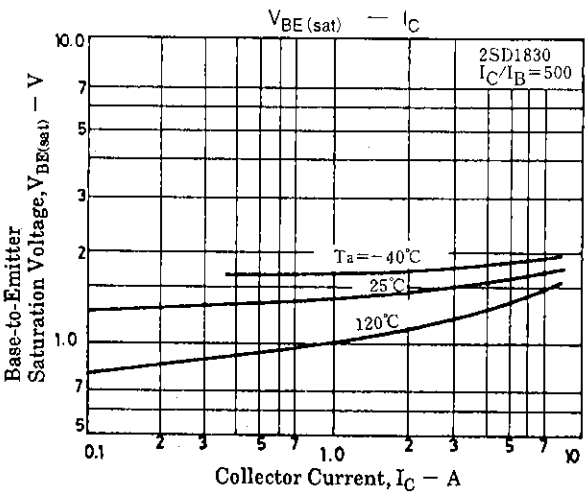
$V_{CE(sat)}$ — I_C



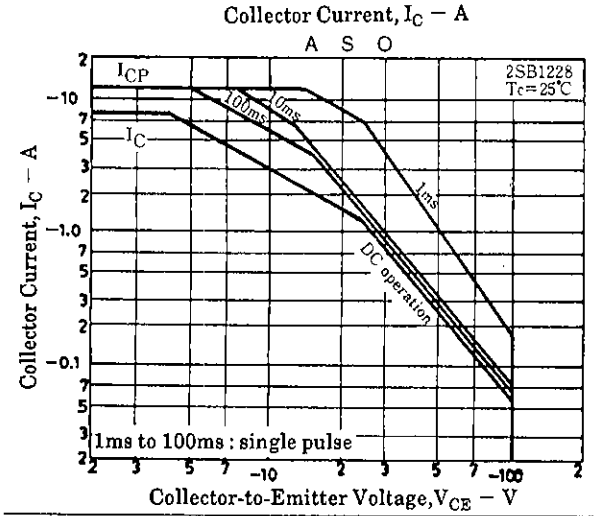
$V_{BE(sat)}$ — I_C



$V_{BE(sat)}$ — I_C



A S O



A S O