Ordering number: EN 2211B

SANYO

No.2211B

2SB1225/2SD1827

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.

( ) : 2SB1225

Absolute Maximum Ratings at Ta = 25°C

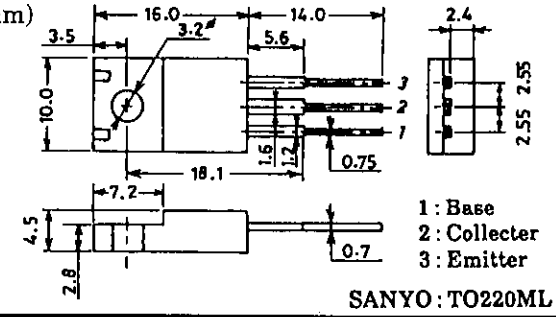
				unit
Collector-to-Base Voltage	V_{CBO}		(−)70	V
Collector-to-Emitter Voltage	V_{CEO}		(−)60	V
Emitter-to-Base Voltage	V_{EBO}		(−)6	V
Collector Current	I_C		(−)10	A
Collector Current (Pulse)	I_{CP}		(−)15	A
Collector Dissipation	P_C		2.0	W
		Tc = 25°C	30	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = (−)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 = (−)5A	2000	5000		
Gain-Bandwidth Product	f_T	V_{CE} = (−)5V, I_C = (−)5A		20		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = (−)5A, I_B = (−)10mA		0.9	(−)1.5	V
				(−1.0)		V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = (−)5A, I_B = (−)10mA			(−)2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = (−)5mA, I_E = 0	(−)70			V
C-E 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}	//		3.0		μs
		//		(1.5)		μs
Fall Time	t_f	//		1.8		μs
		//		(1.7)		μs

Package Dimensions 2041A

(unit : mm)



SANYO : TO220ML

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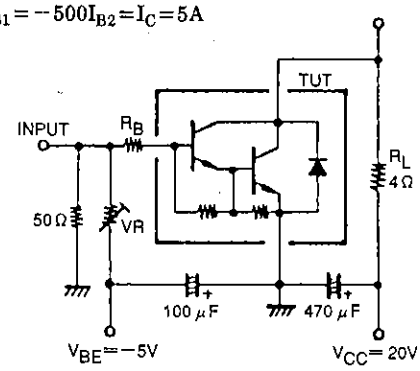
TOKYO OFFICE Tokyo Bldg., 1-10,1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

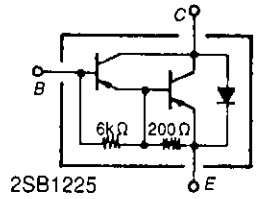
Specified Test Circuit (For PNP, the polarity is reversed.)

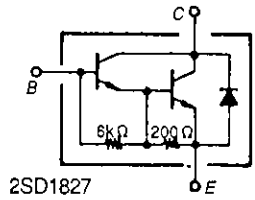
PW=50μs, Duty cycle ≦1%

$500I_{B1} = -500I_{B2} = I_C = 5A$

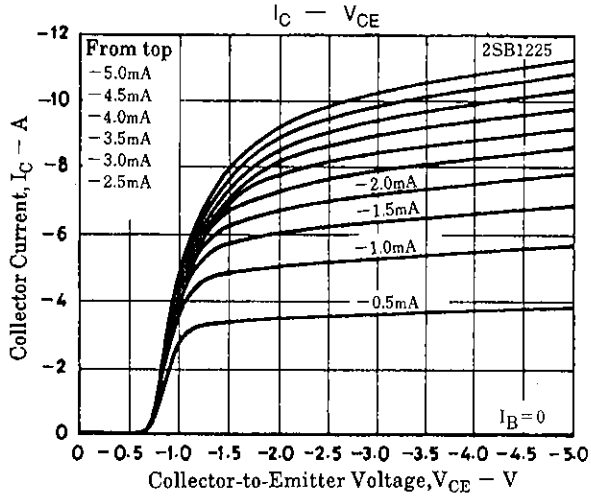


Electrical Connection

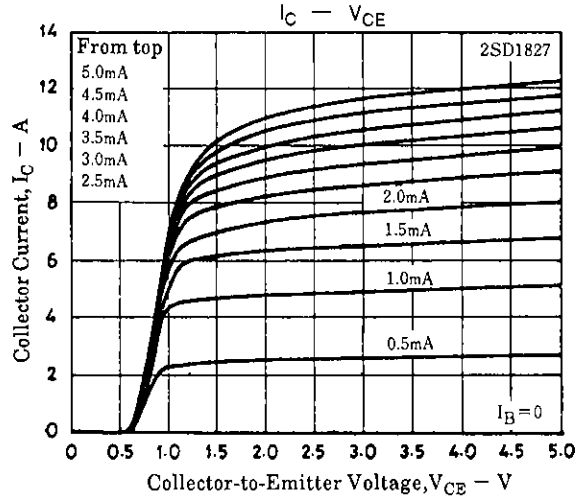




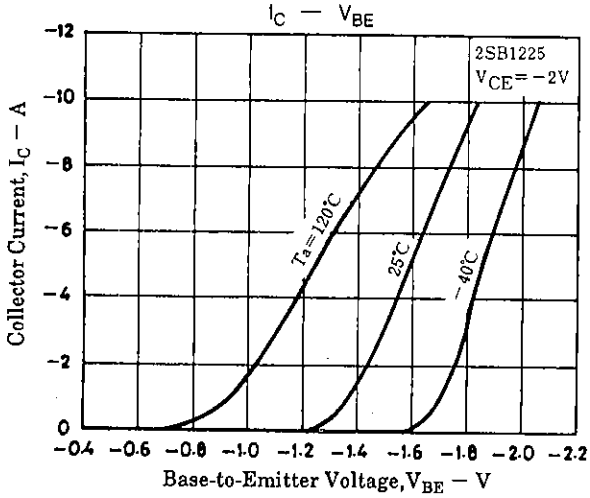
I_C — V_{CE}



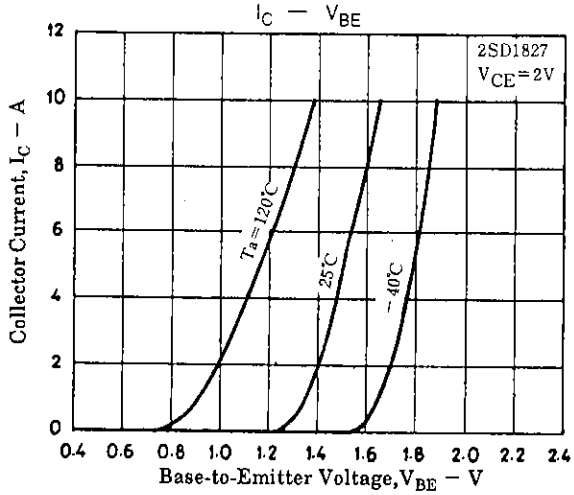
I_C — V_{CE}



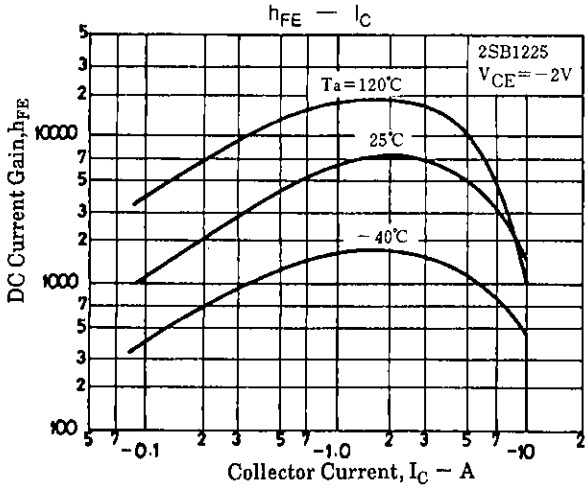
I_C — V_{BE}



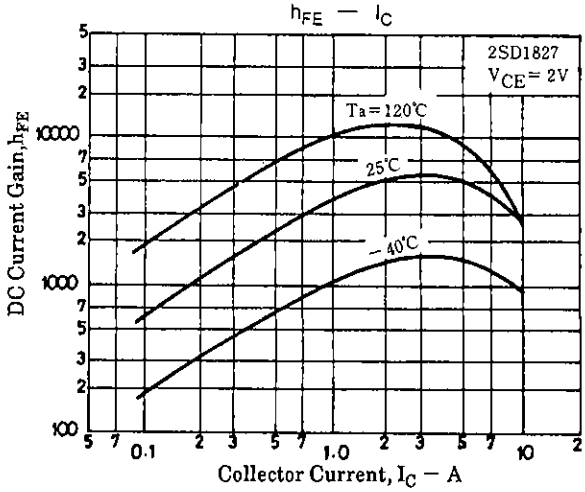
I_C — V_{BE}

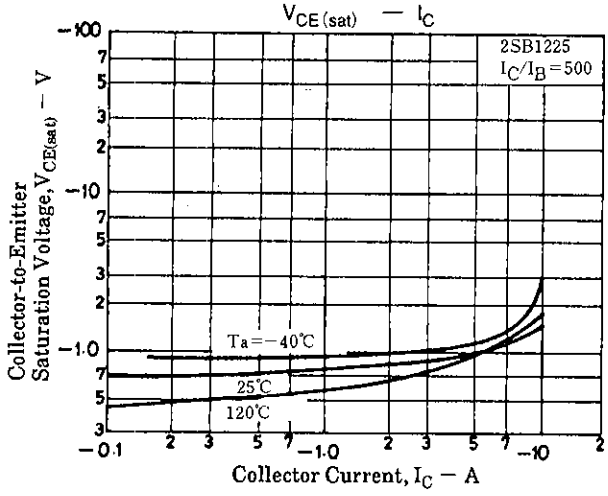


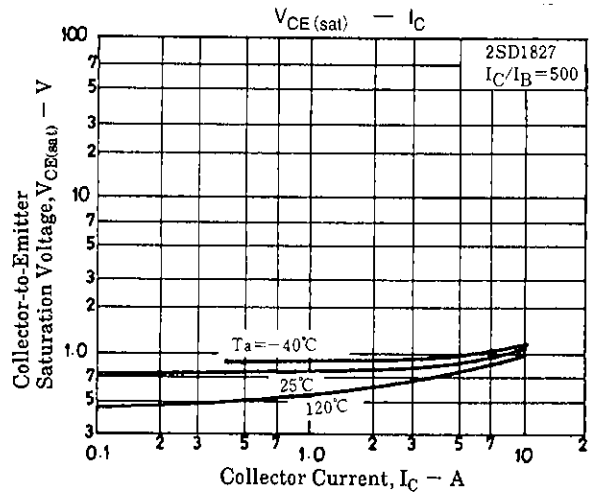
h_{FE} — I_C

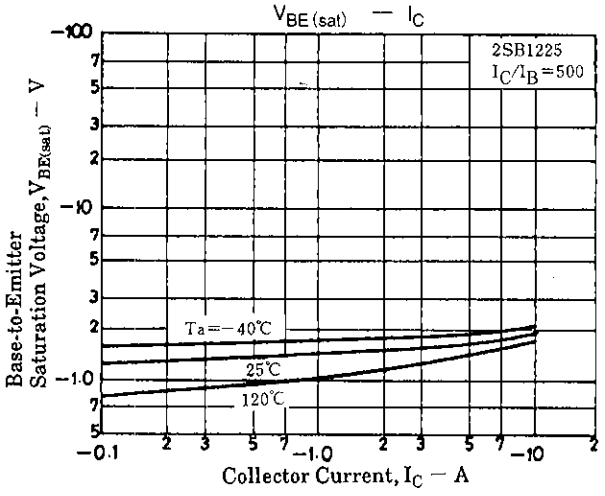


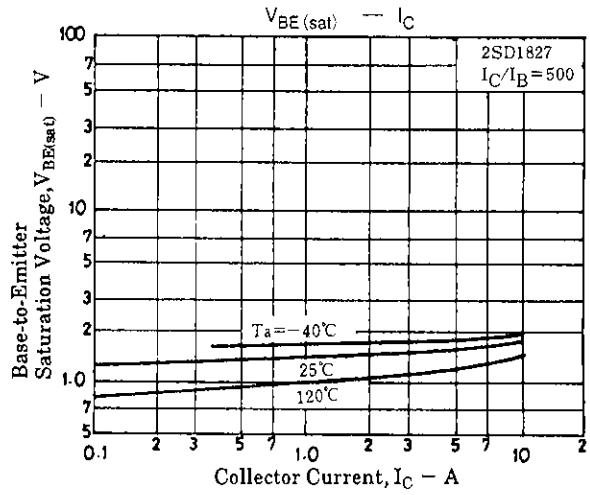
h_{FE} — I_C

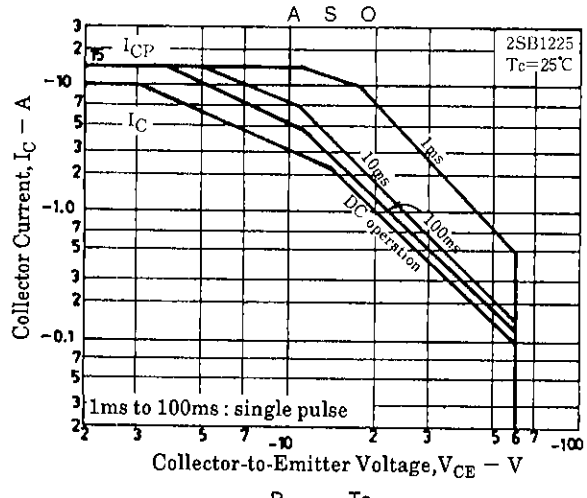


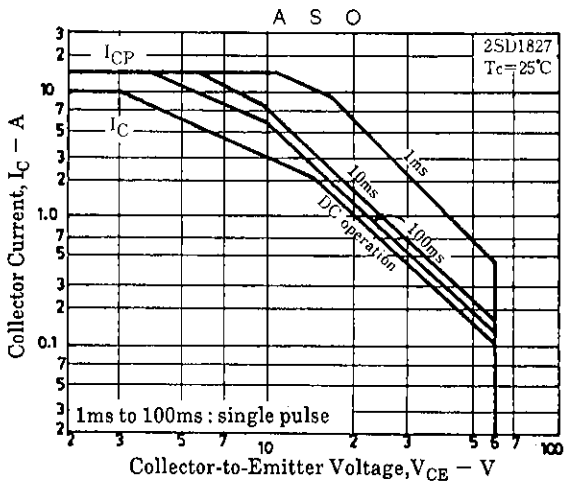

$V_{CE(sat)}$ — I_C
2SB1225
I_C/I_B=500
Ta=−40°C
25°C
120°C
Collector-to-Emitter Saturation Voltage, $V_{CE(sat)}$ — V
Collector Current, I_C — A

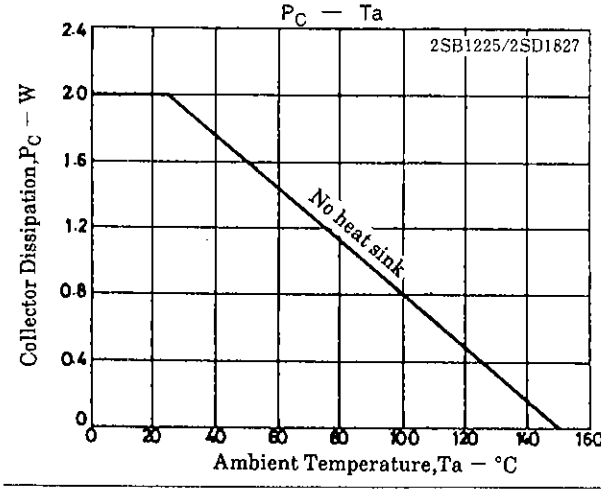

$V_{CE(sat)}$ — I_C
2SD1827
I_C/I_B=500
Ta=−40°C
25°C
120°C
Collector-to-Emitter Saturation Voltage, $V_{CE(sat)}$ — V
Collector Current, I_C — A

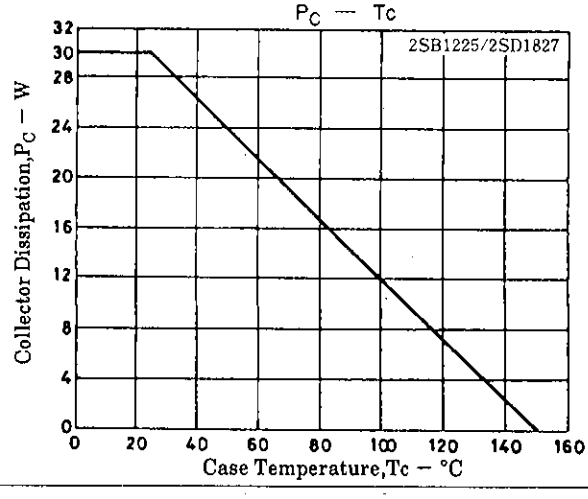

$V_{BE(sat)}$ — I_C
2SB1225
I_C/I_B=500
Ta=−40°C
25°C
120°C
Base-to-Emitter Saturation Voltage, $V_{BE(sat)}$ — V
Collector Current, I_C — A


$V_{BE(sat)}$ — I_C
2SD1827
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


A S O
2SB1225
Tc=25°C
I_{CP}
I_C
1ms
10ms
100ms
DC operation
1ms to 100ms : single pulse
Collector Current, I_C — A
Collector-to-Emitter Voltage, V_{CE} — V


A S O
2SD1827
Tc=25°C
I_{CP}
I_C
1ms
10ms
100ms
DC operation
1ms to 100ms : single pulse
Collector Current, I_C — A
Collector-to-Emitter Voltage, V_{CE} — V


P_C — Ta
2SB1225/2SD1827
No heat sink
Collector Dissipation, P_C — W
Ambient Temperature, Ta — °C


P_C — Tc
2SB1225/2SD1827
Collector Dissipation, P_C — W
Case Temperature, Tc — °C

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