Ordering number:2017A

PNP/NPN Epitaxial Planar Silicon Transistors

2SB1125/2SD1625

Driver Applications

Applications

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

Features

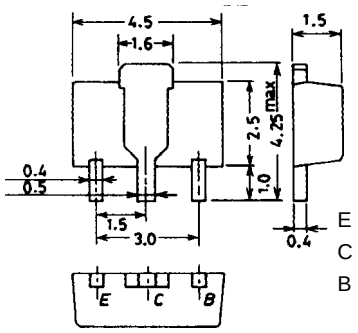
· High DC current gain.
· Large current capacity and wide ASO.
· Very small size making it easy to provide high-density, small-sized hybrid IC'.

Package Dimensions

unit:mm

2038

[2SB1125/2SD1625]



E : Emitter
C : Collector
B : Base

SANYO : PCP
(Bottom view)

( ) : 2SB1125

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)80	V
Collector-to-Emitter Voltage	V_{CEO}		(–)50	V
Emitter-to-Base Voltage	V_{EBO}		(–)10	V
Collector Current	I_C		(–)0.7	A
Collector Current (Pulse)	I_{CP}		(–)2	A
Collector Dissipation	P_C		500	mW
		Mounted on ceramic board (250mm²×0.8mm)	1.3	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			(–)100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)8V, I_C=0			(–)100	nA
DC Current Gain	$h_{FE}1$	V_{CE}=(–)2V, I_C=(–)50mA	5000			
	$h_{FE}2$	V_{CE}=(–)2V, I_C=(–)500mA	4000			
			(3000)			
Gain-Bandwidth Product	f_T	V_{CE}=(–)5V, I_C=(–)50mA		200		MHz
				(170)		MHz

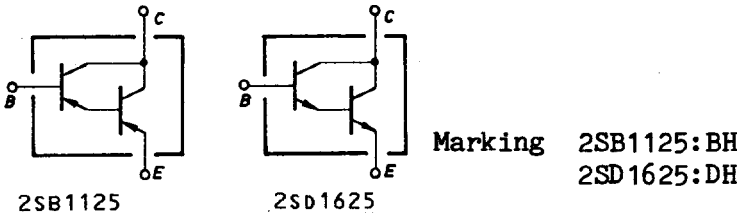
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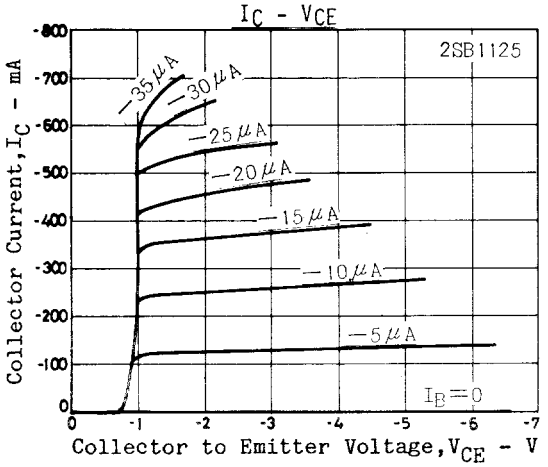
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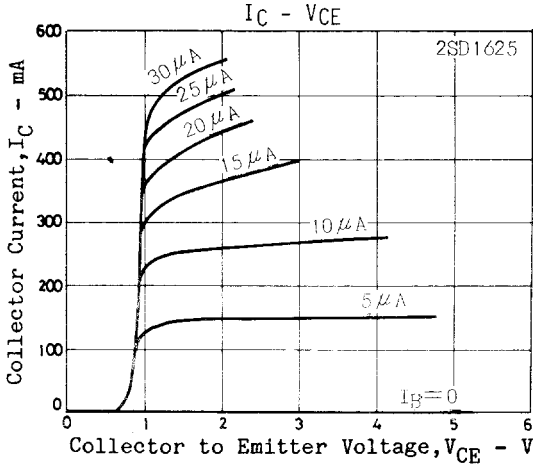
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

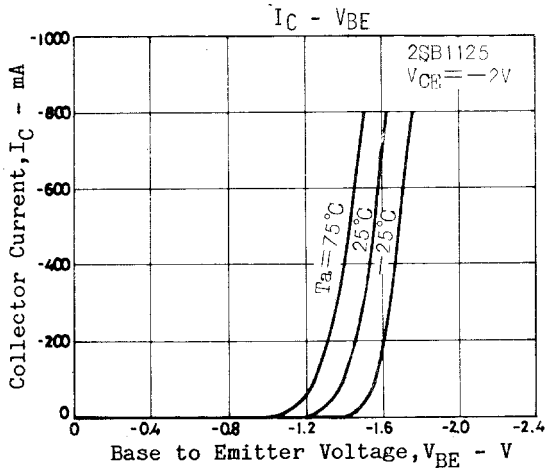
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	C_{ob}	V_{CB}=(–)10V, f=1MHz		9		pF
				(18)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)100mA, I_B=(–)0.1mA		(–)0.8	(–)1.2	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)100mA, I_B=(–)0.1mA		(–)1.3	(–)2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)10μA, I_C=0	(–)10			V

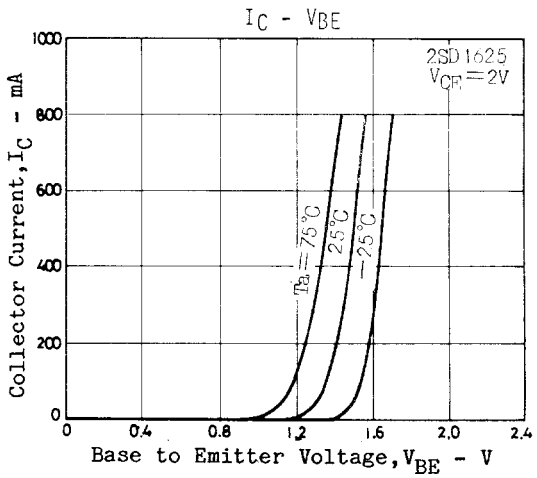
Electrical Connection

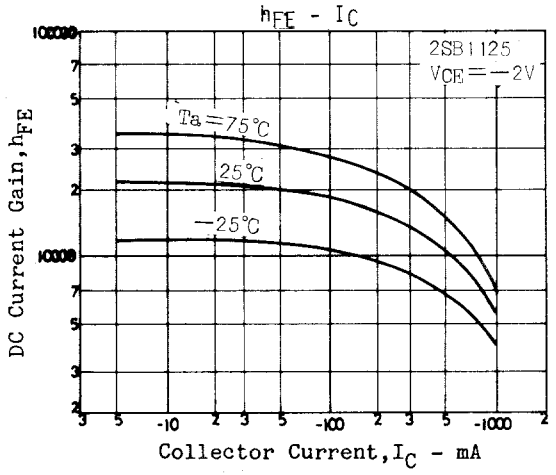


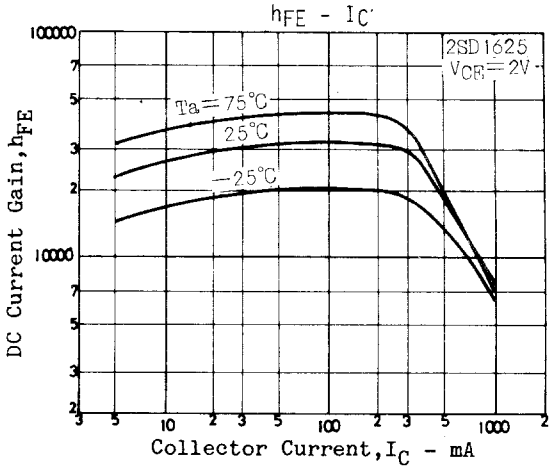


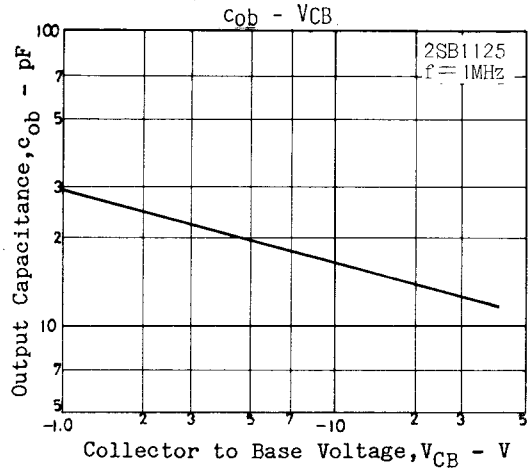


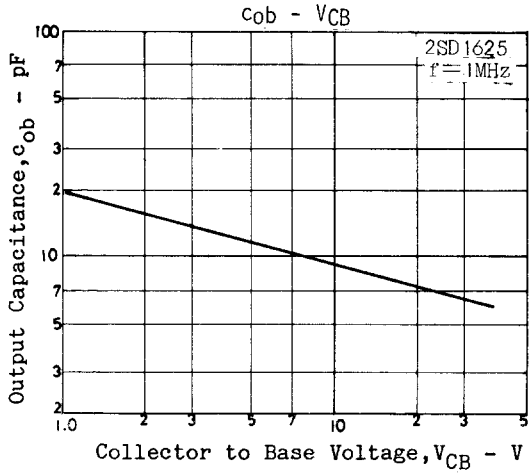


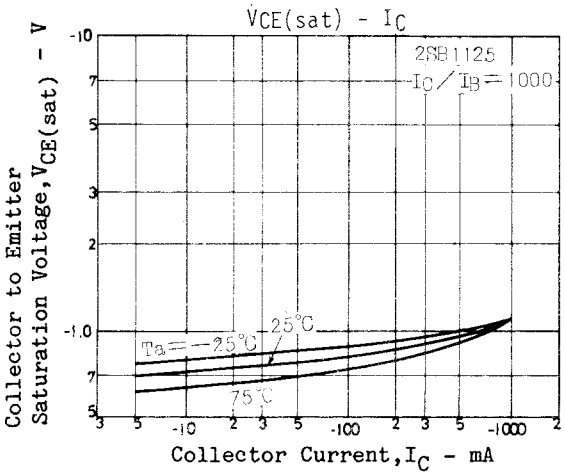


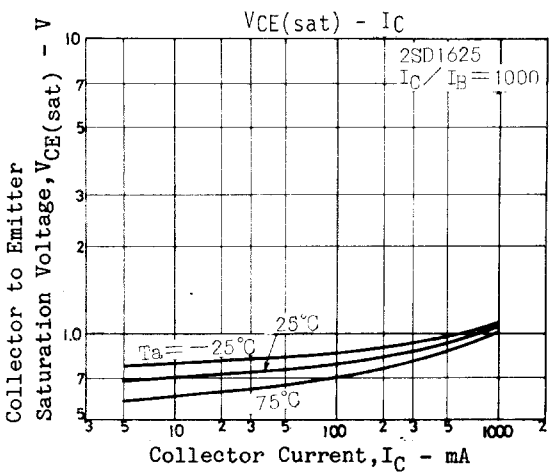

hFE - IC
2SB1125
VCE=−2V
Ta=75°C
25°C
−25°C
DC Current Gain, hFE
Collector Current, IC - mA

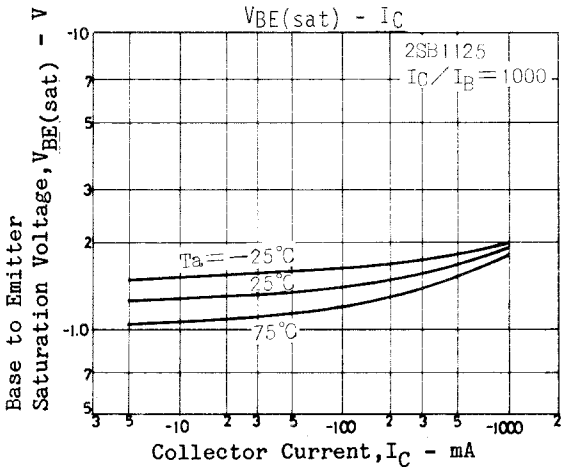

hFE - IC
2SD1625
VCE=2V
Ta=75°C
25°C
−25°C
DC Current Gain, hFE
Collector Current, IC - mA

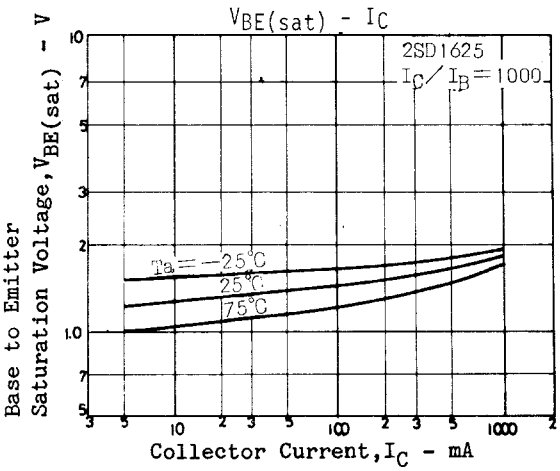

Cob - VCB
2SB1125
f=1MHz
Output Capacitance, Cob - pF
Collector to Base Voltage, VCB - V

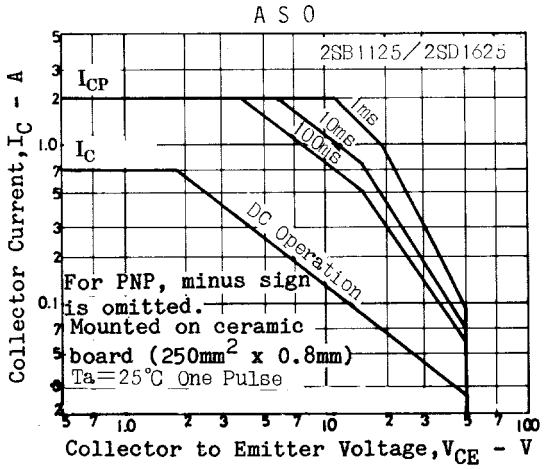

Cob - VCB
2SD1625
f=1MHz
Output Capacitance, Cob - pF
Collector to Base Voltage, VCB - V

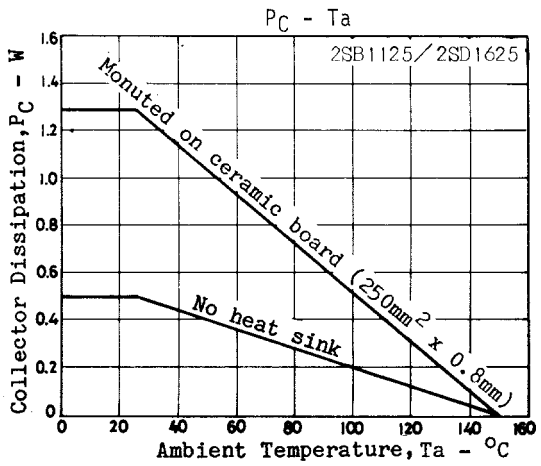

VCE(sat) - IC
2SB1125
IC / IB=1000
Ta=−25°C
25°C
75°C
Collector to Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - mA


VCE(sat) - IC
2SD1625
IC / IB=1000
Ta=−25°C
25°C
75°C
Collector to Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - mA


VBE(sat) - IC
2SB1125
IC / IB=1000
Ta=−25°C
25°C
75°C
Base to Emitter Saturation Voltage, VBE(sat) - V
Collector Current, IC - mA


VBE(sat) - IC
2SD1625
IC / IB=1000
Ta=−25°C
25°C
75°C
Base to Emitter Saturation Voltage, VBE(sat) - V
Collector Current, IC - mA





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