Ordering number: EN 825C

SANYO No.825C

2SB829/2SD1065

PNP/NPN Epitaxial Planar Silicon Transistors

50V/15A Switching Applications

Applications

- Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features

- Low-saturation collector-to-emitter voltage : $V_{CE(sat)} = -0.5V$ max.
- Wide ASO leading to high resistance to breakdown.

( ) : 2SB829

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector-to-Base Voltage	V_{CBO}		(−)60	V
Collector-to-Emitter Voltage	V_{CEO}		(−)50	V
Emitter-to-Base Voltage	V_{EBO}		(−)6	V
Collector Current	I_C		(−)15	A
Collector Current (Pulse)	I_{CP}		(−)20	A
Collector Dissipation	P_C	Tc = 25°C	90	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

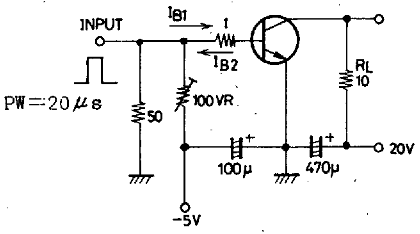
Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40V, I_E = 0$			(−)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			(−)0.1	mA
DC Current Gain	$h_{FE}(1)$	$V_{CE} = (-)2V, I_C = (-)1A$	70※		280※	
	$h_{FE}(2)$	$V_{CE} = (-)2V, I_C = (-)8A$	30			
Gain Bandwidth Product	f_T	$V_{CE} = (-)5V, I_C = (-)1A$		20		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)8A, I_B = (-)0.4A$		(−0.26) 0.18	(−0.5) 0.4	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)1mA, I_E = 0$	(−)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(−)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)1mA, I_C = 0$	(−)6			V
Rise Time	t_{on}	See specified Test Circuit.		0.2		μs
Storage Time	t_{stg}	〃		(0.5)1.0		μs
Fall Time	t_f	〃		0.1		μs

※ : The 2SB829/2SD1065 are classified by 1A h_{FE} as follows :

70 Q 140	100 R 200	140 S 280

Switching Time Test Circuit



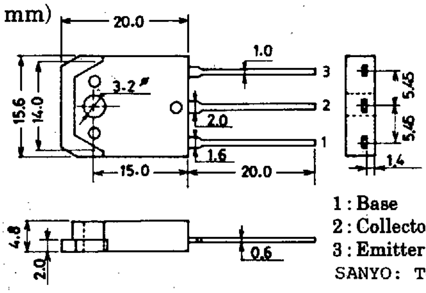
$10I_{B1} = -10I_{B2} = I_C = 2A$

(For PNP, the polarity is reversed.)

Unit (Resistance : Ω, Capacitance : F)

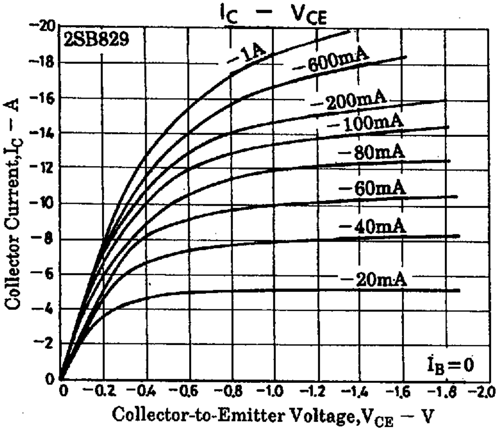
Package Dimensions 2022A

(unit : mm)

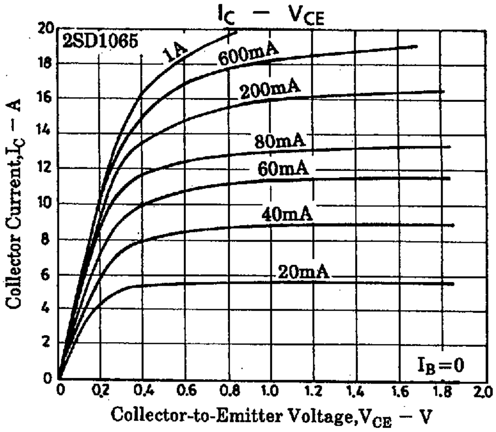


1 : Base
2 : Collector
3 : Emitter
SANYO : TO3PB

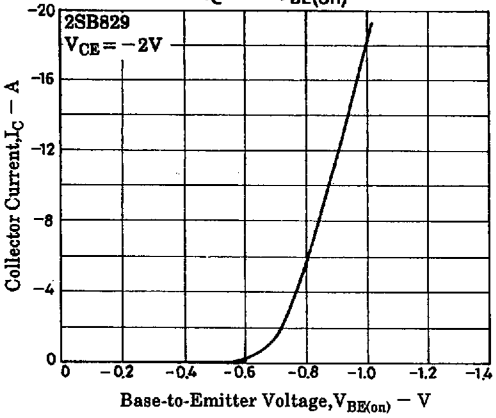
$I_C - V_{CE}$



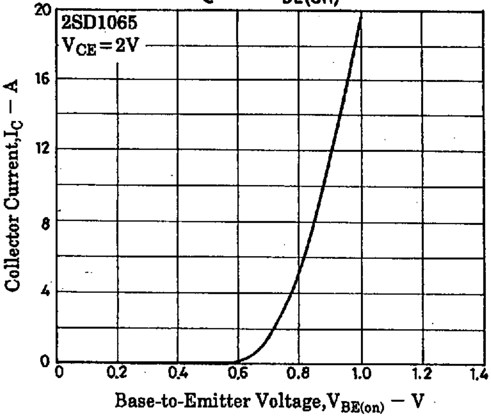
$I_C - V_{CE}$



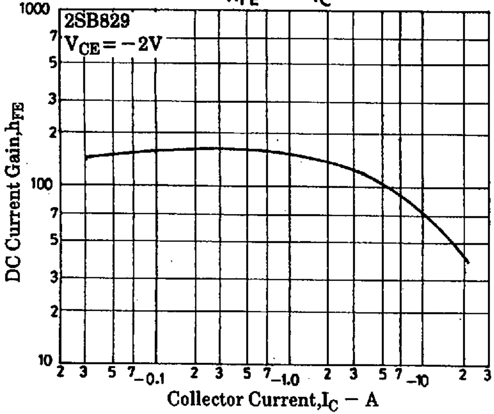
$I_C - V_{BE(on)}$



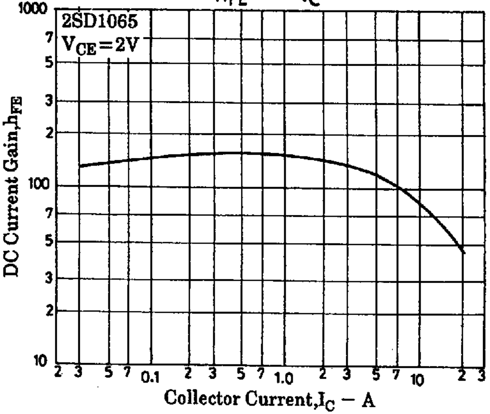
$I_C - V_{BE(on)}$



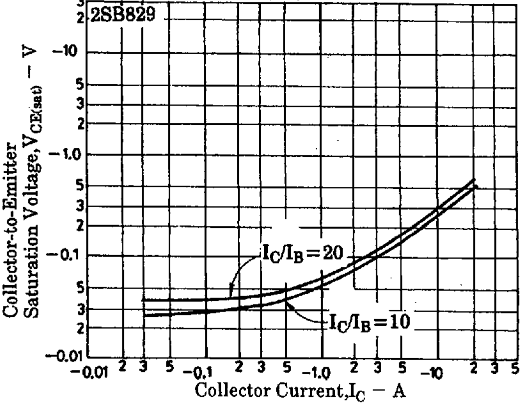
$h_{FE} - I_C$



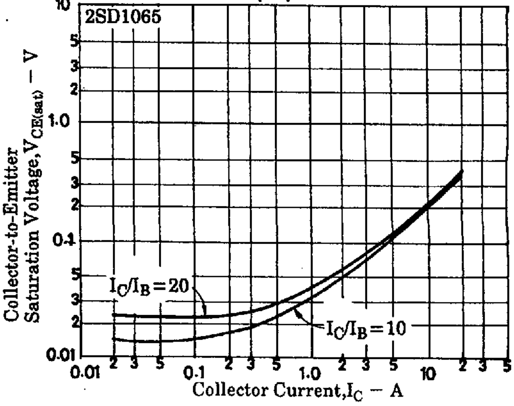
$h_{FE} - I_C$



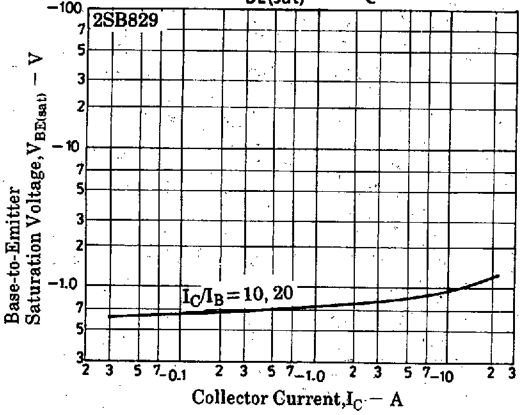
$V_{CE(sat)} - I_C$



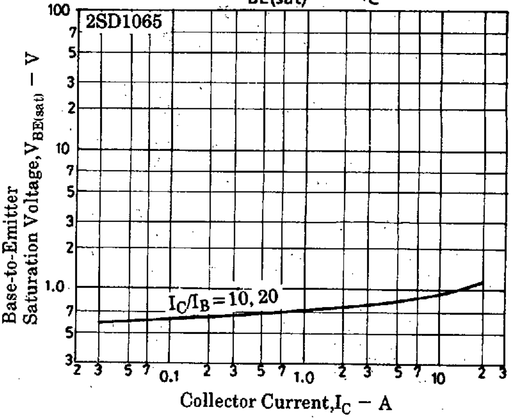
$V_{CE(sat)} - I_C$



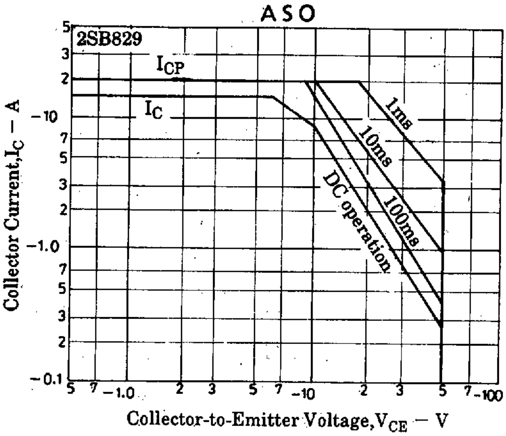
$V_{BE(sat)}$ — I_C



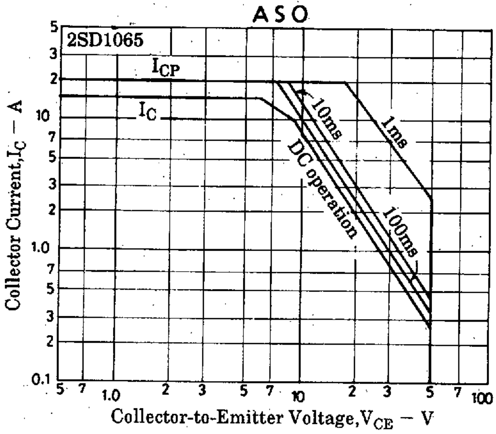
$V_{BE(sat)}$ — I_C



ASO



ASO



P_C — T_C