

**2SB829/2SD1065****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

Specifications**Absolute Maximum Ratings** at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	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	$T_c=25^\circ C$	90	W
Junction Temperature	T_J		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

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}	$V_{EB} = (-)4V, I_C = 0$			(-)0.1	mA
DC Current Gain	h_{FE1}	$V_{CE} = (-)2V, I_C = (-)1A$	70*		280*	
	h_{FE2}	$V_{CE} = (-)2V, I_C = (-)8A$	30			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)5V, I_C = (-)1A$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)8A, I_B = (-)0.4A$		(-)0.26	(-)0.5	V
				0.18	0.4	V

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

Rank	Q	R	S
h_{FE}	70 to 140	100 to 200	140 to 280

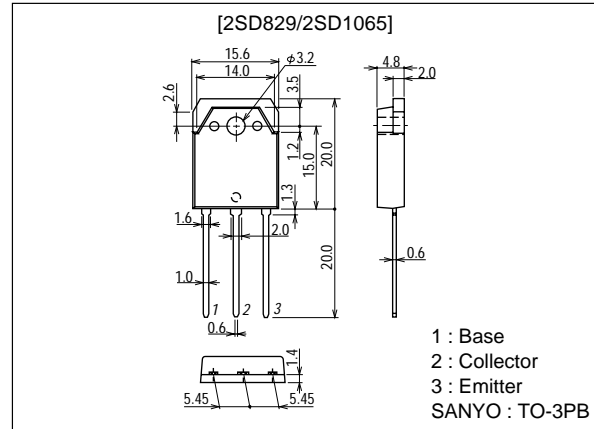
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Package Dimensions

unit:mm

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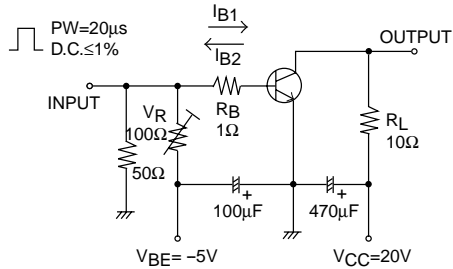


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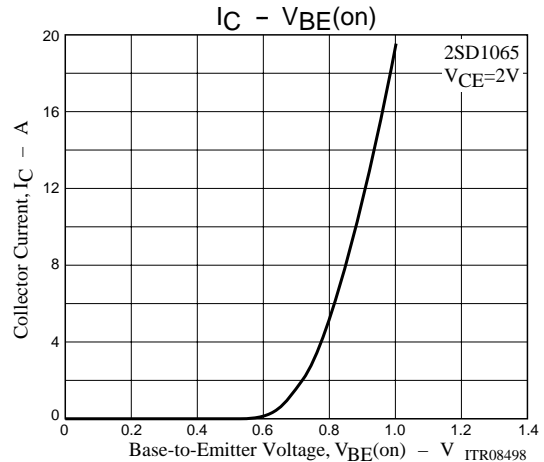
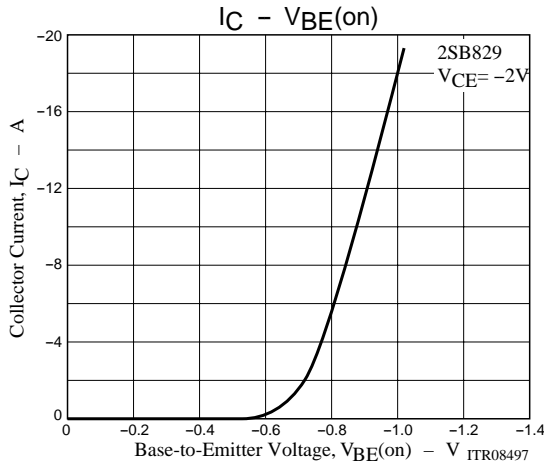
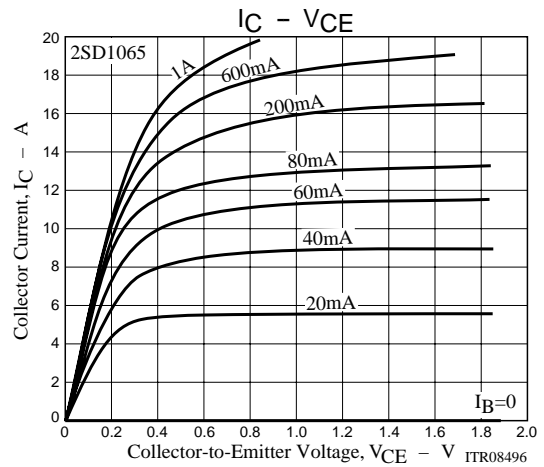
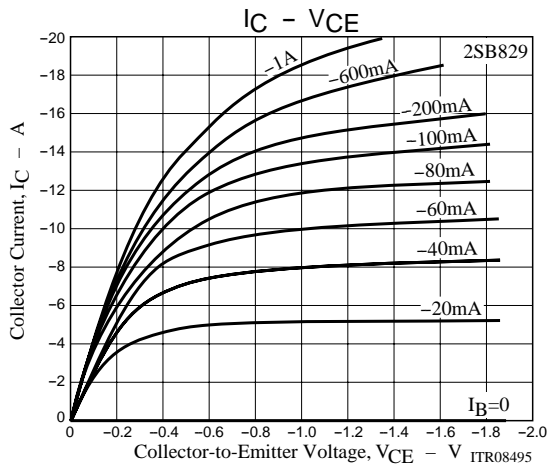
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)1mA, I_C=0$	(-)6			V
Turn-ON Time	t_{on}	See specified Test Circuit		0.2		μs
Fall Time	t_f	See specified Test Circuit		(0.5)		μs
Storage Time	t_{stg}	See specified Test Circuit		1.0		μs
				0.1		μs

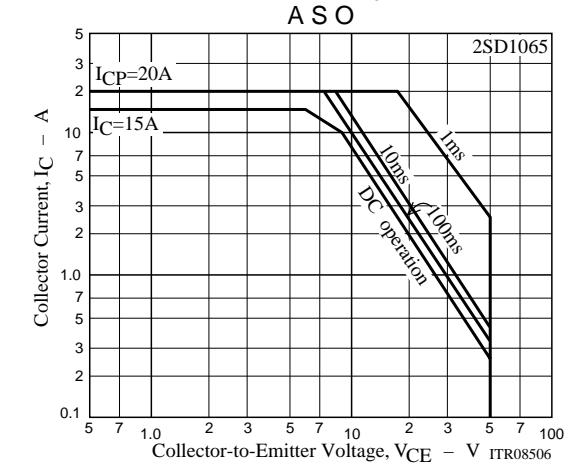
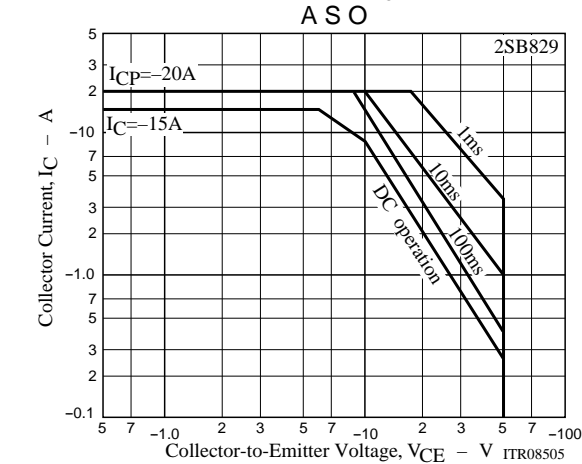
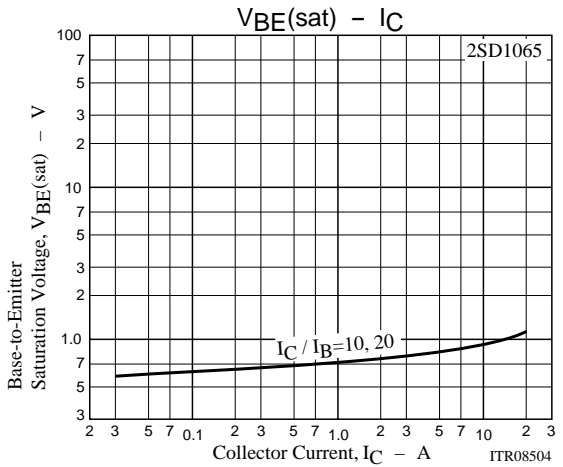
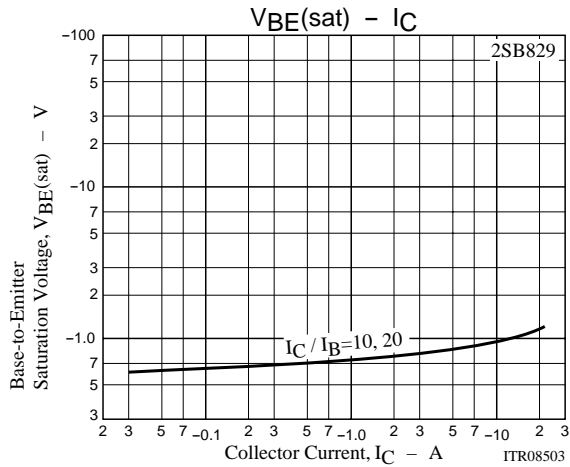
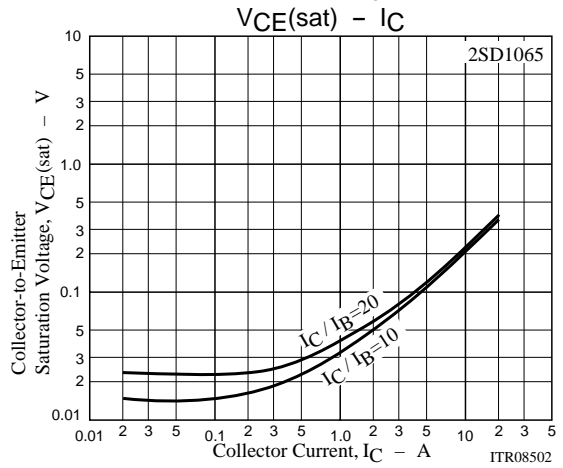
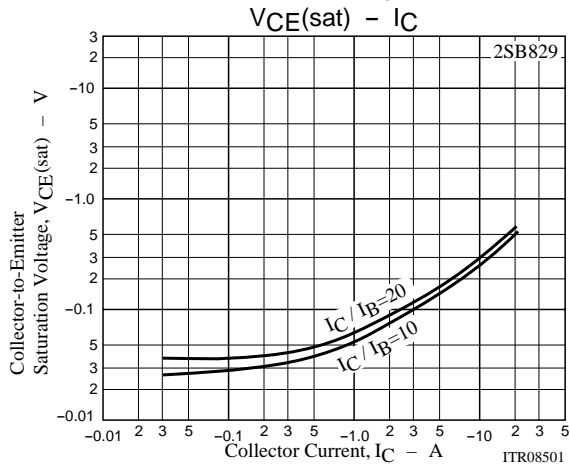
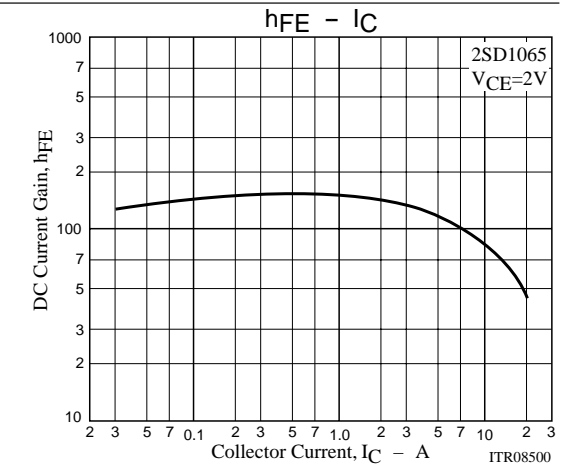
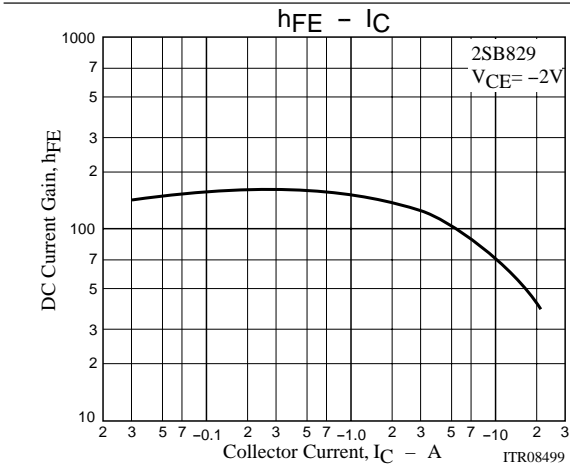
Switching Time Test Circuit



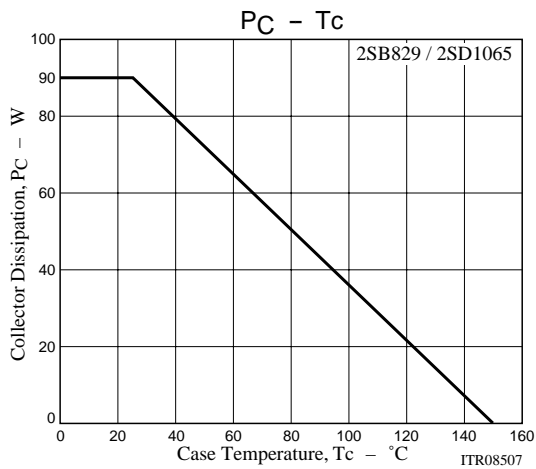
$I_C = 10I_{B1} = -10I_{B2} = 2A$
(For PNP, the polarity is reversed.)



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