



2SB826/2SD1062

50V/12A Switching Applications

Applications

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

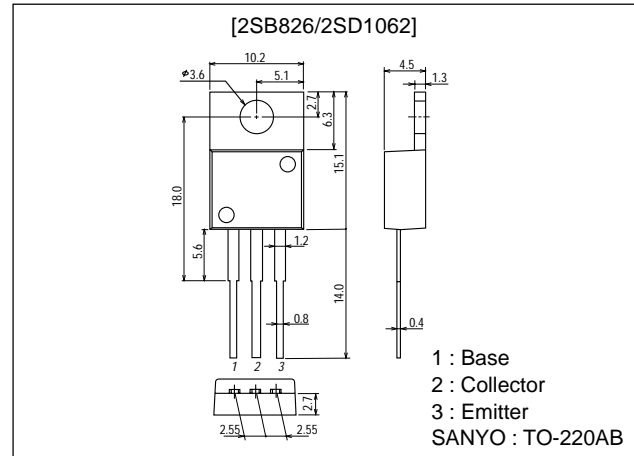
Features

- Low-saturation collector-to-emitter voltage :
 $V_{CE(sat)} = -0.5V$ (PNP), $0.4V$ (NPN) max.
- Wide ASO leading to high resistance to breakdown.

Package Dimensions

unit:mm

2010C



() : 2SB826

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		(-)-12	A
Collector Current (Pulse)	I_{CP}		(-)-15	A
Collector Dissipation	P_C	$T_c=25^\circ C$	40	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}	$V_{CE} = (-)2V, I_C = (-)5A$	30			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)5V, I_C = (-)1A$		10		MHz

* : The 2SB826/2SD1062 are classified by 1A h_{FE} as follows :

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

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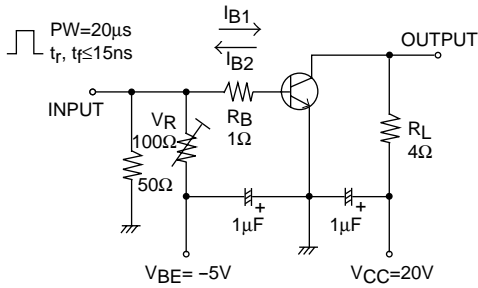
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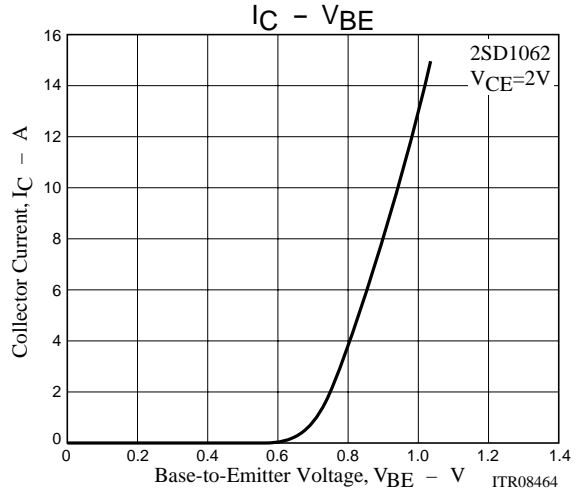
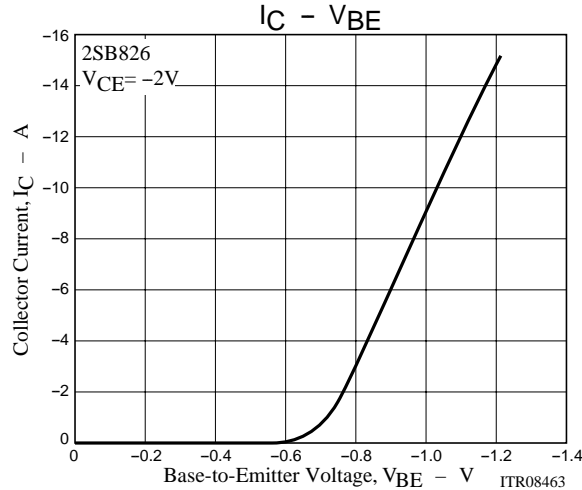
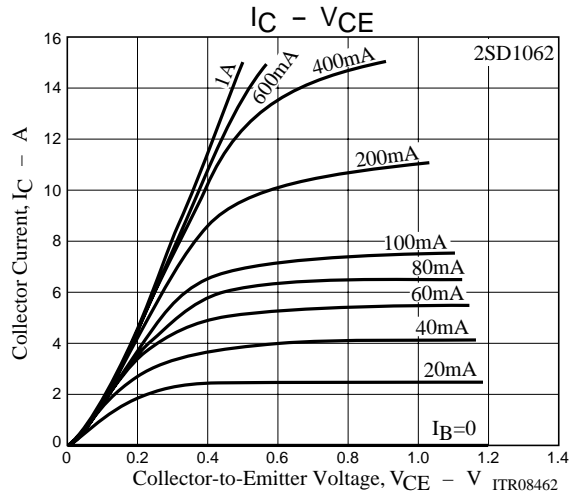
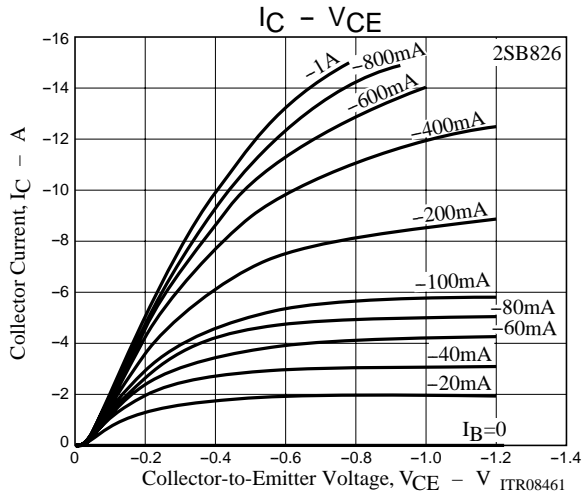
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)6A, I_B=(-)0.3A$			0.4	V
					(-0.5)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-60)			V
Collector-to-Emitter 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
					0.1	μs
Fall Time	t_f	See specified test circuit.		(0.4)		μs
					1.2	μs
Storage Time	t_{stg}	See specified test circuit.		(0.1)		μs
					0.05	μs

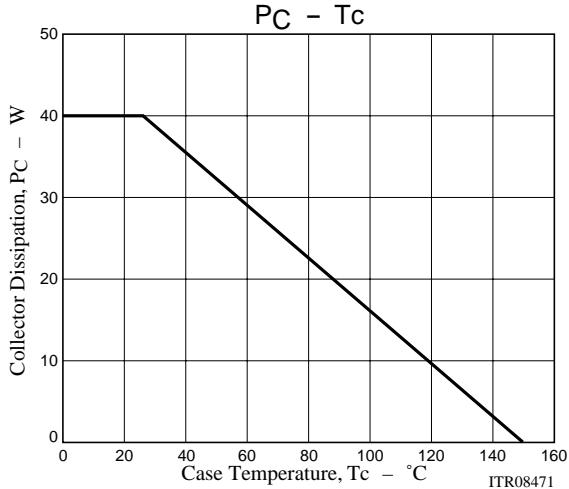
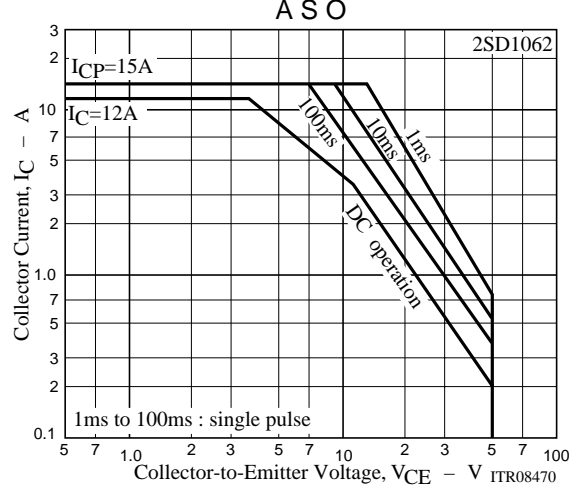
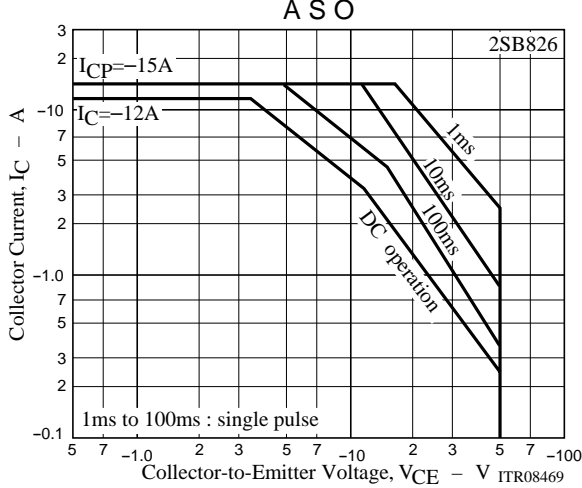
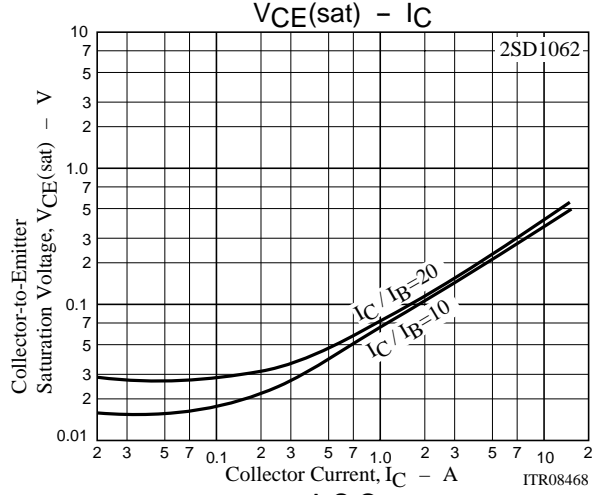
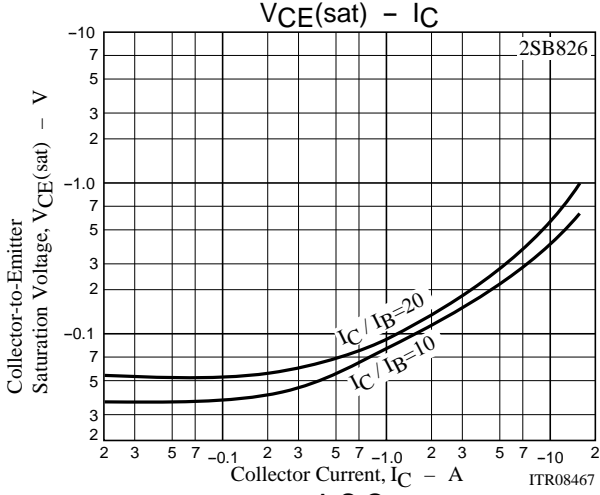
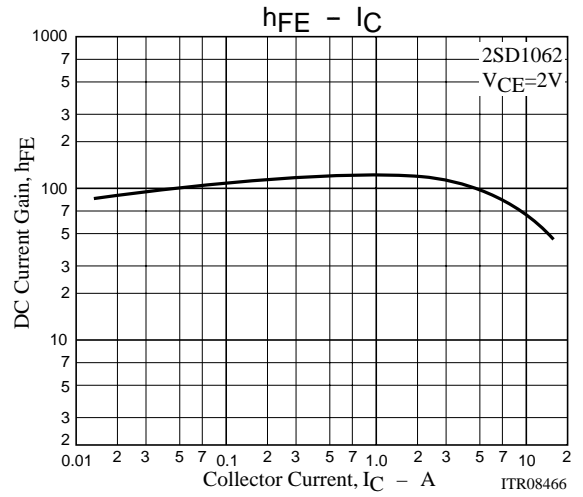
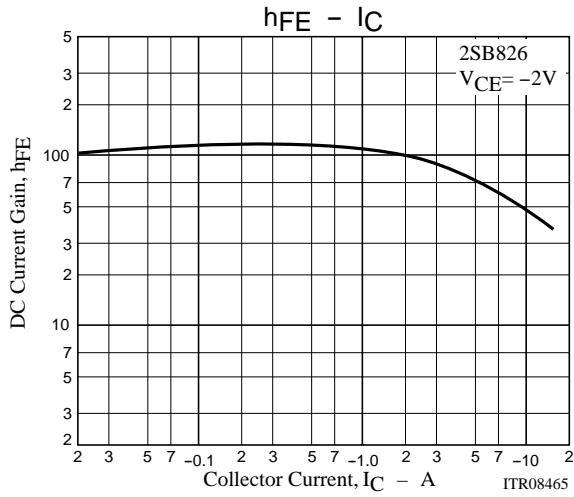
Switching Time Test Circuit



$I_C=10I_{B1} = -10I_{B2}=5A$
(For PNP, the polarity is reversed.)



2SB826/2SD1062



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