



2SB825/2SD1061

50V/7A Switching Applications

Applications

- Universal high current switching as solenoid driving, high speed inverter and converter.

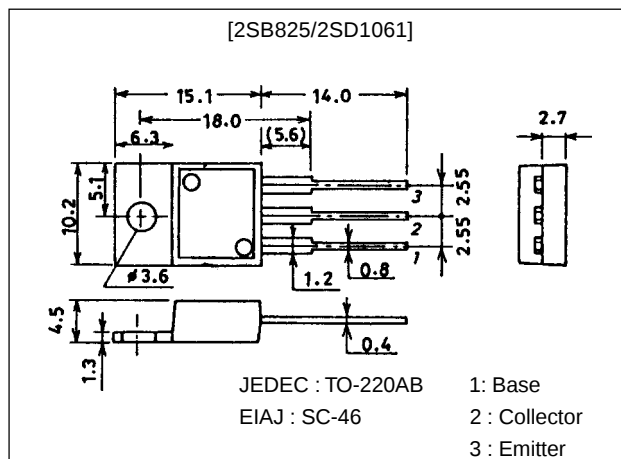
Features

- Low saturation voltage : $V_{CE(sat)} = (-)0.4V$ max.
- Wide ASO

Package Dimensions

unit:mm

2010C



() : 2SB825

Specifications

Absolute Maximum Ratings at Ta = 25°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		(–)7	A
Collector Current (Pulse)	I_{CP}		(–)12	A
Collector Dissipation	P_C	$T_c=25^{\circ}\text{C}$	40	W
Junction Temperature	T_J		150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		–55 to +150	$^{\circ}\text{C}$

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40V, I_E=0$			$(-)0.1$	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 2SB825/2SD1061 are classified by 1A h_{FF} as follows :

70	Q	140	100	R	200	140	S	280
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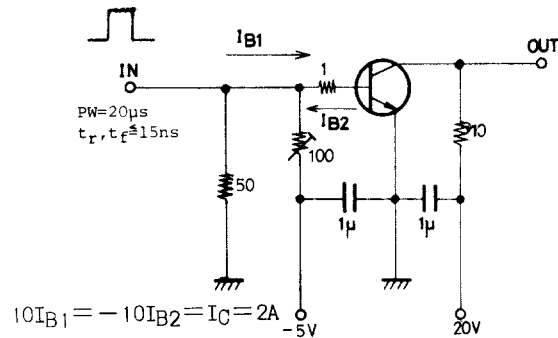
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

91098HA (KT)/D251MH/4027KI/3205MW/0619KI No.687-1/4

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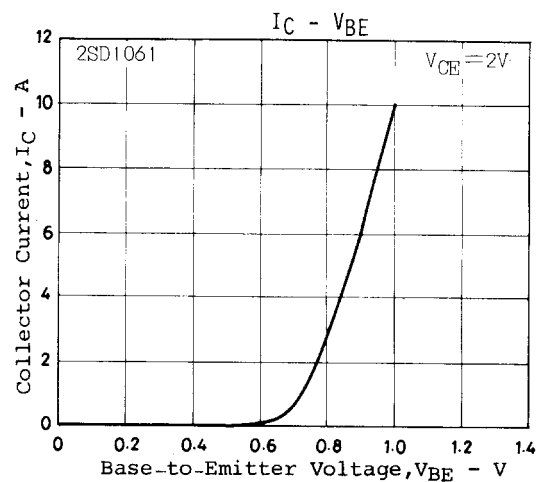
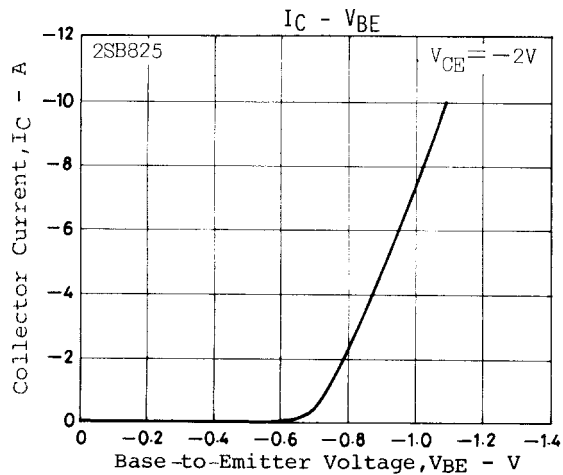
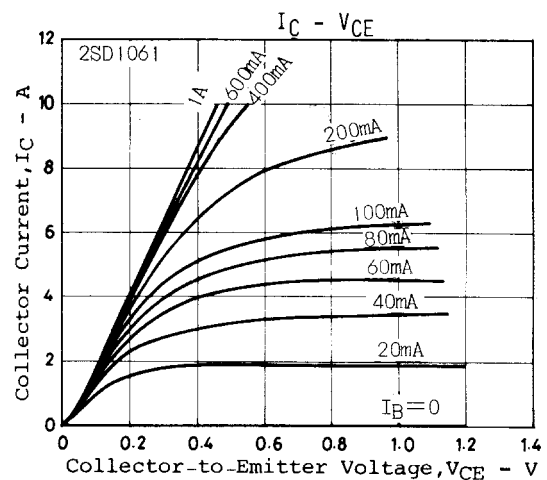
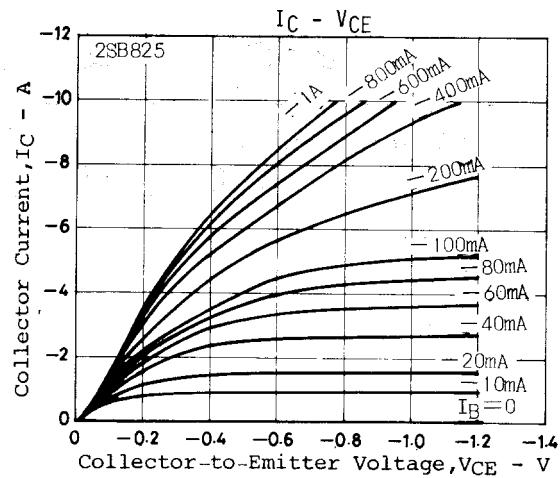
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)4A, I_B=(-)0.4A$			$(-)0.4$	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	$(-)60$			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	$(-)50$			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
Fall Time	t_f	See specified test circuit.		(0.1)		μs
				0.3		μs
Storage Time	t_{stg}	See specified test circuit.		(0.7)		μs
				0.9		μs

Switching Time Test Circuit

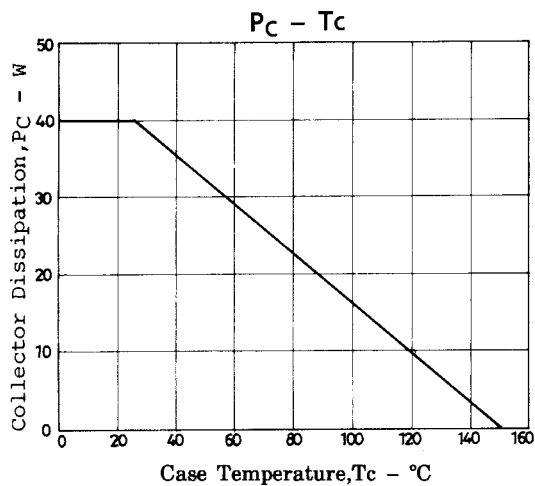
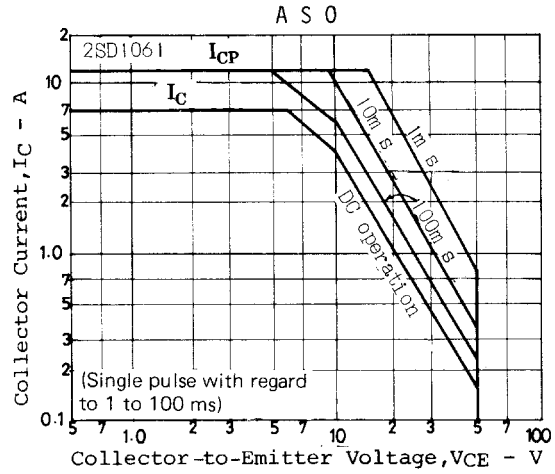
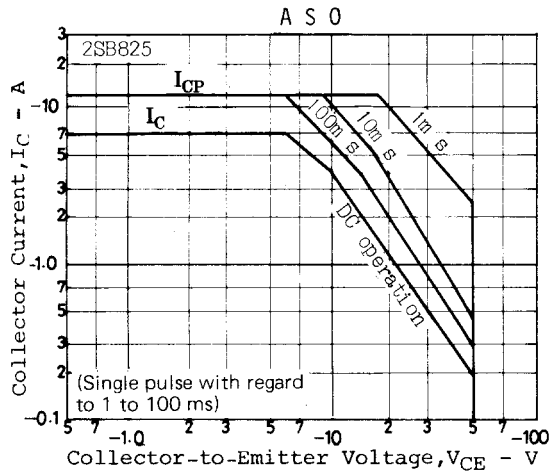
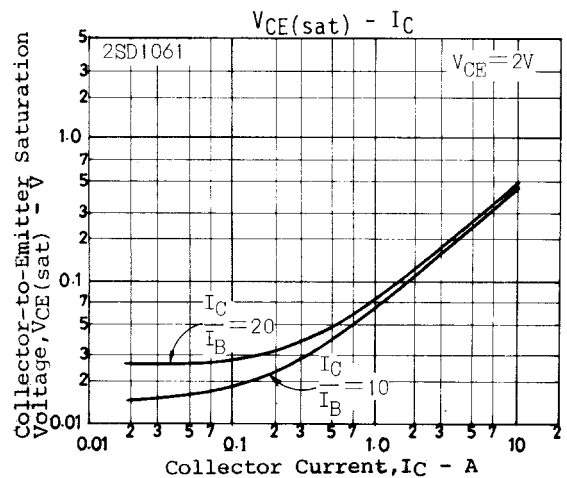
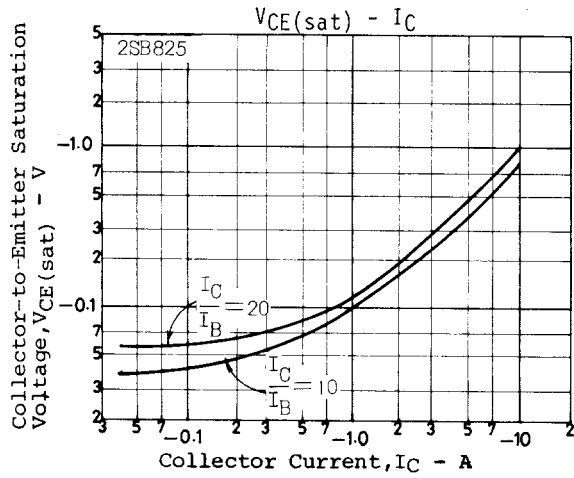
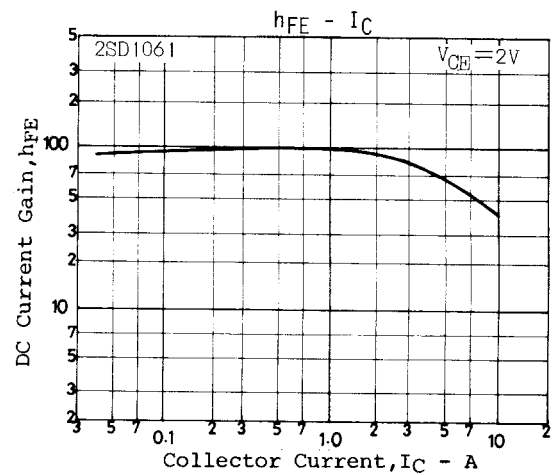
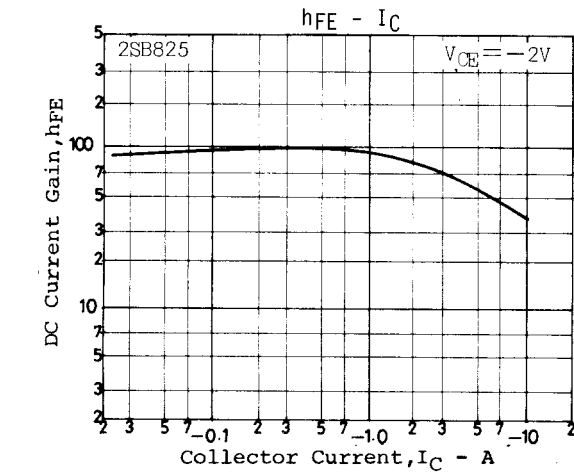


(For PNP, the polarity is reversed.)

Unit (resistance : Ω , capacitance : F)



2SB825/2SD1061



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