



2SB827/2SD1063

50V/7A Switching Application

Applications

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

Features

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

() : 2SB827

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		(-7)	A
Collector Current (Pulse)	I_{CP}		(-14)	A
Collector Dissipation	P_C	$T_c=25^\circ C$	60	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
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)4A, I_B=(-)0.4A$			(-0.4)	V

* : The 2SB827/2SD1063 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

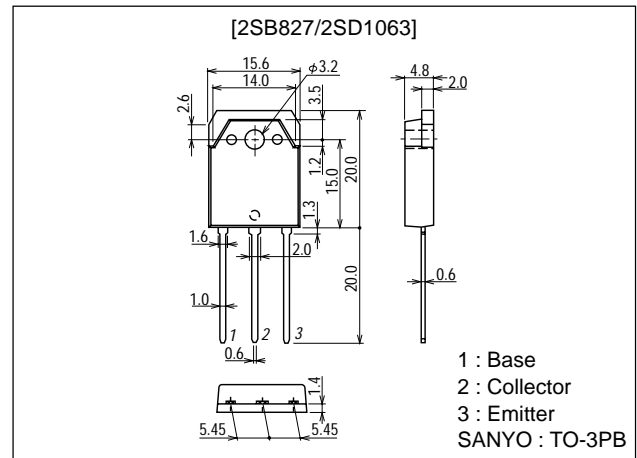
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Package Dimensions

unit:mm

2022A

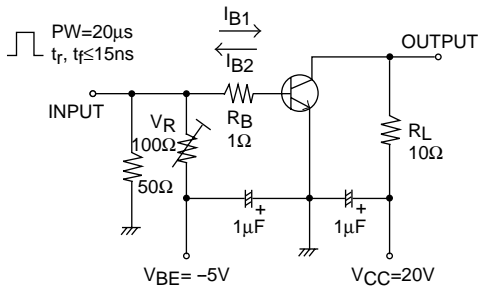


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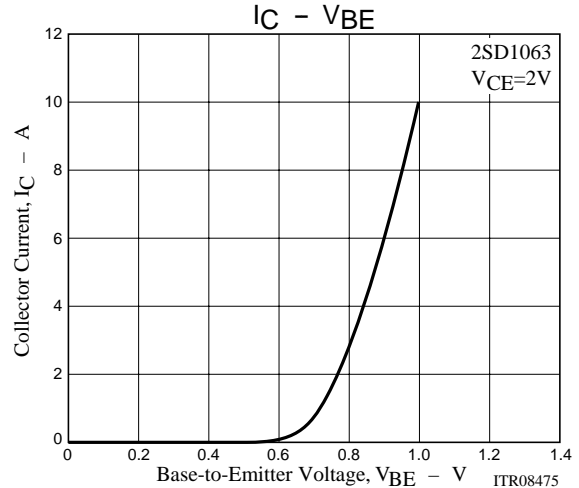
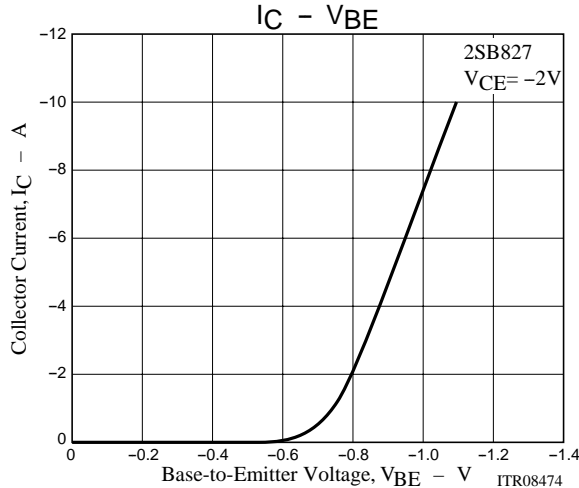
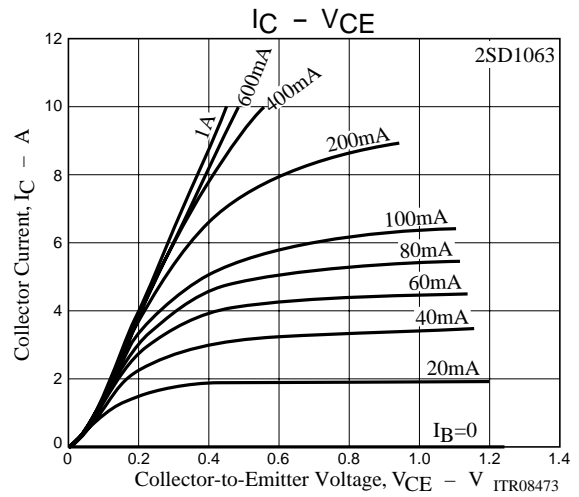
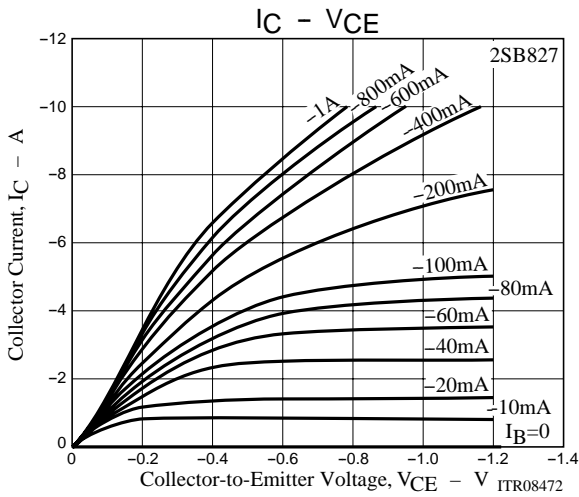
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)50			V
Emitter-to-Base Breakdown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

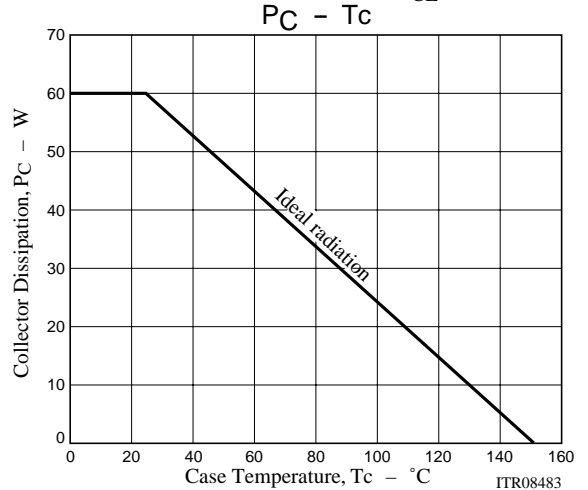
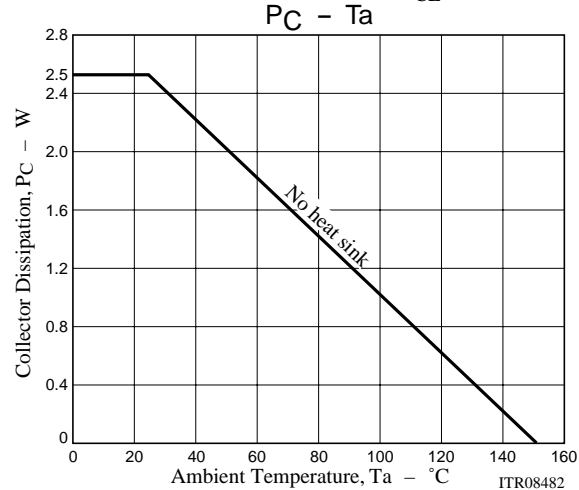
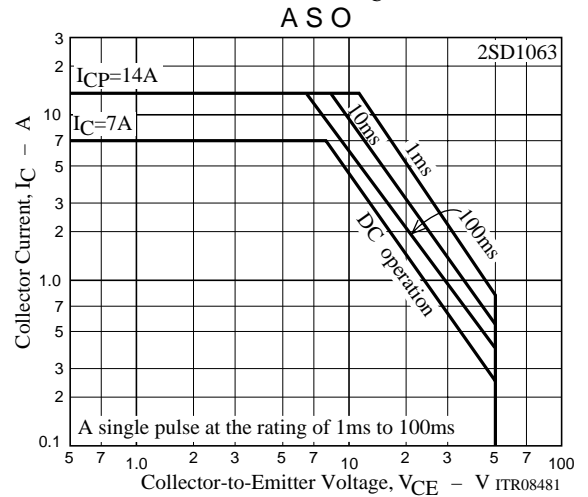
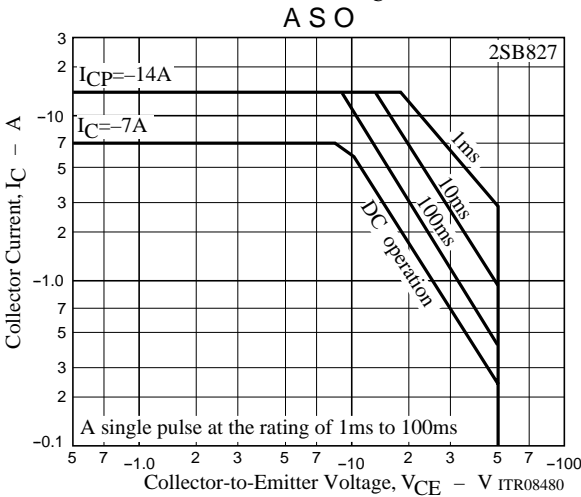
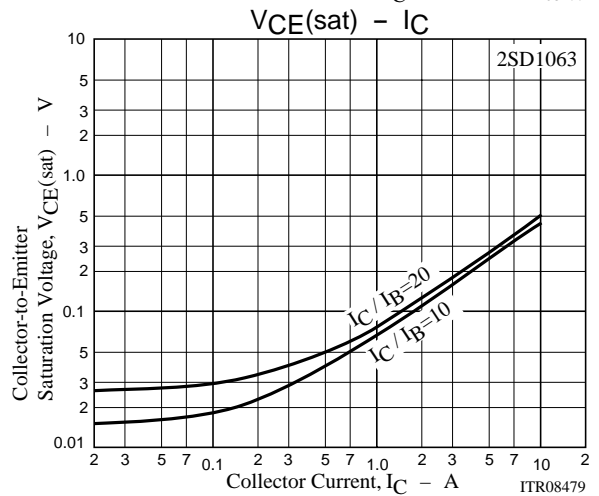
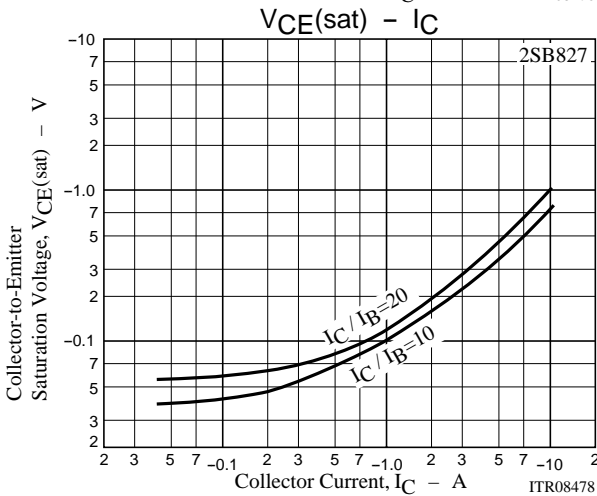
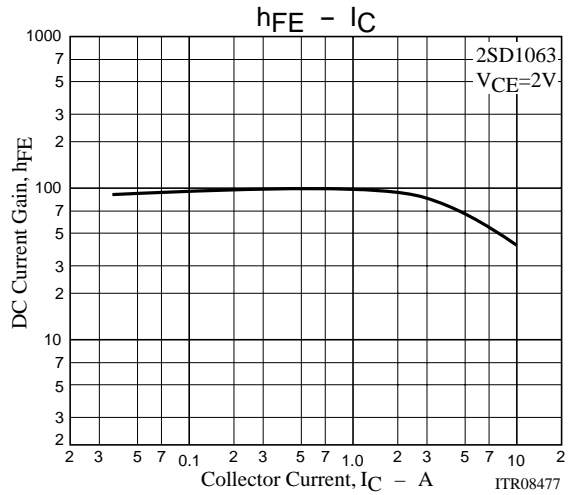
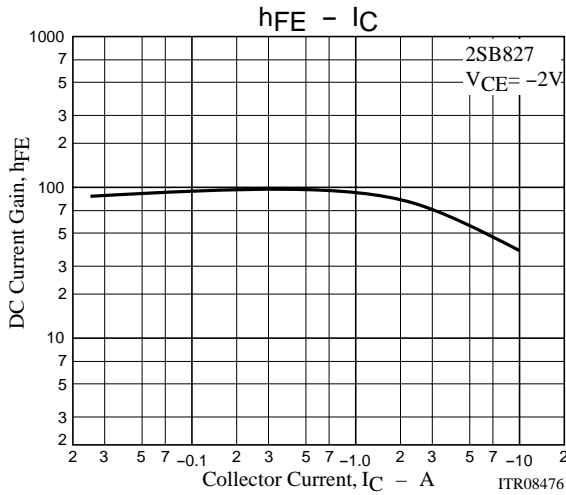
Switching Time Test Circuit



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



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