

Ordering number:EN2209C

PNP/NPN Epitaxial Planar Silicon Darlington Transistors



2SB1223/2SD1825

Driver Applications

Applications

- Suitable for use in control of motor drivers, printer hammer drivers, and constant-voltage regulators.

Features

- High DC current gain.
- Large current capacity and wide ASO.
- Micaless package facilitating mounting.

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Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)70	V
Collector-to-Emitter Voltage	V_{CEO}		(-)60	V
Emitter-to-Base Voltage	V_{EBO}		(-)6	V
Collector Current	I_C		(-)4	A
Collector Current (Pulse)	I_{CP}		(-)6	A
Collector Dissipation	P_C		2.0	W
		Tc=25°C	20	W
Junction Temperature	T_J		150	°C
Storage Temperature	T_{stg}		-55 to +150	°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}	$V_{EB}=(-)5V, I_C=0$			(-)3.0	mA
DC Current Gain	h_{FE}	$V_{CE}=(-)2V, I_C=(-)2A$	2000	5000		
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5V, I_C=(-)2A$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)4mA$		0.9	(-)1.5	V
				(-1.0)		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)4mA$			(-)2.0	V

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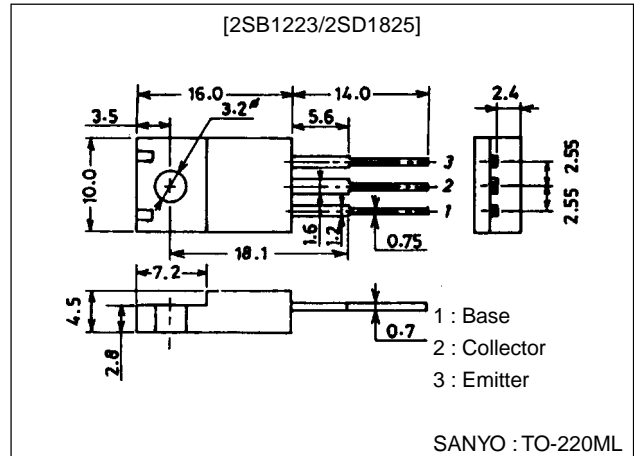
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92098HA (KT)/80796TS (KOTO) 8-9896/2047KI, TS No.2209-1/4

Package Dimensions

unit:mm

2041A



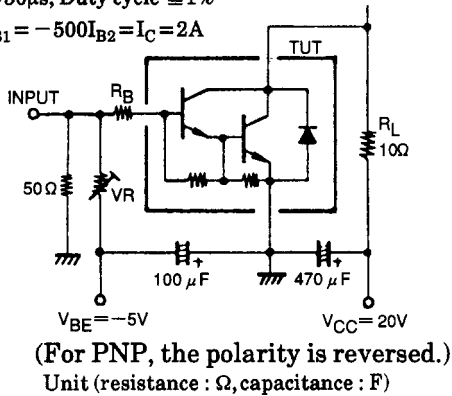
2SB1223/2SD1825

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5mA, I_E=0$	$(-)70$			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)50mA, R_{BE}=\infty$	$(-)60$			V
Turn-ON Time	t_{on}	See specified Test Circuit		0.6		μs
Storage Time	t_{stg}	See specified Test Circuit		(0.5)		μs
				2.7		μs
Fall Time	t_f	See specified Test Circuit		(1.4)		μs
				1.6		μs
				(1.2)		μs

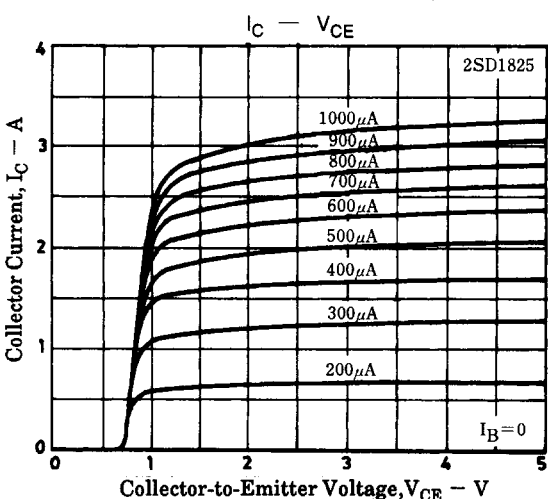
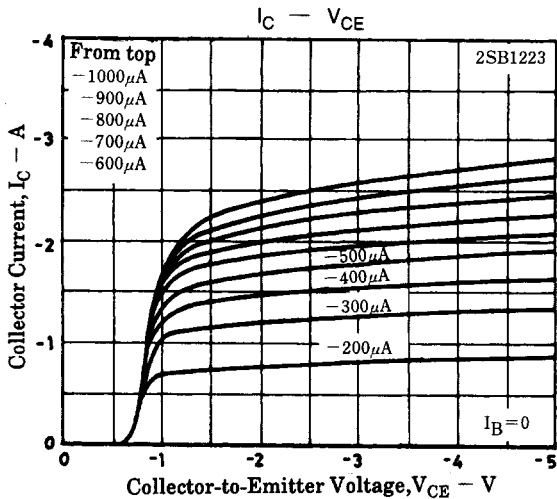
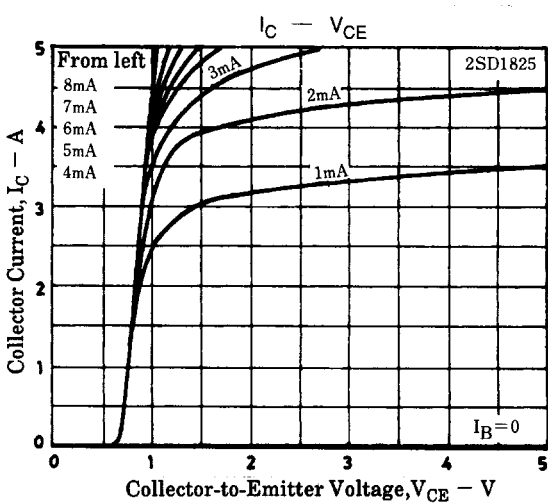
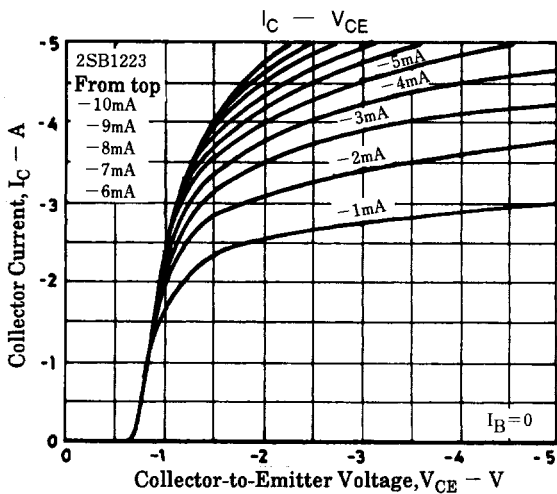
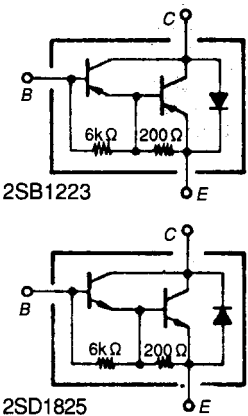
Switching Time Test Circuit

PW=50 μ s, Duty cycle \leq 1%

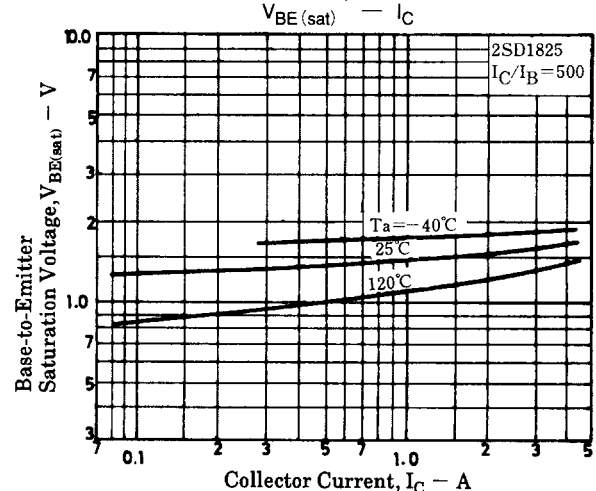
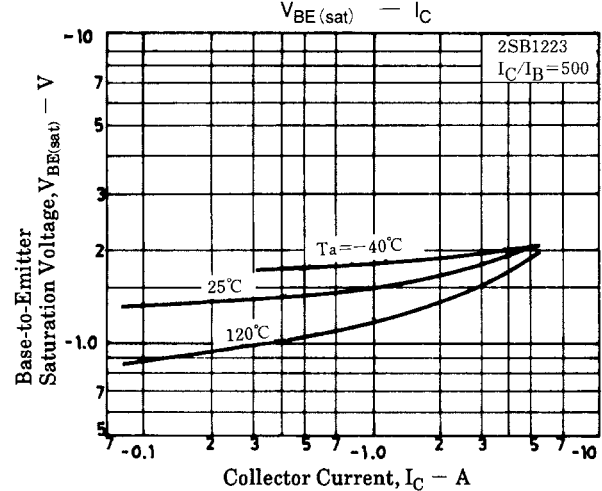
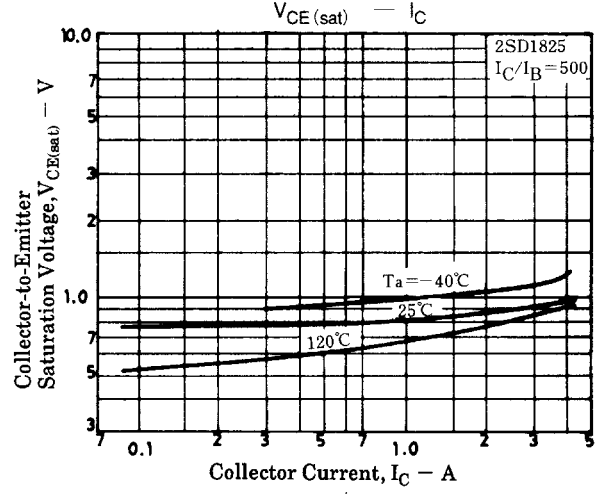
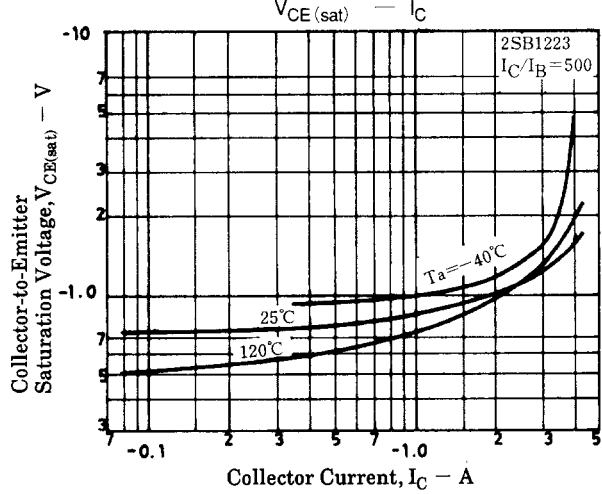
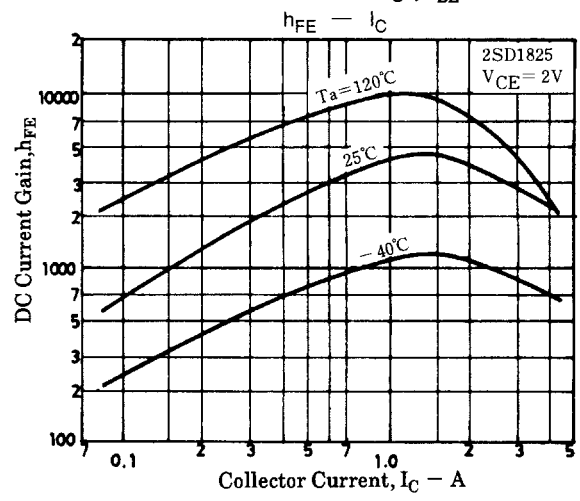
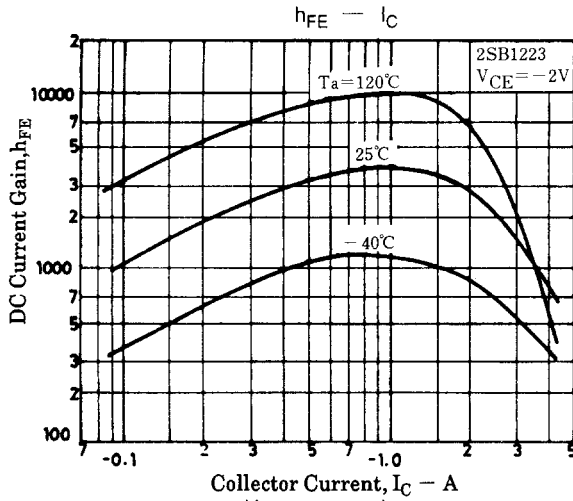
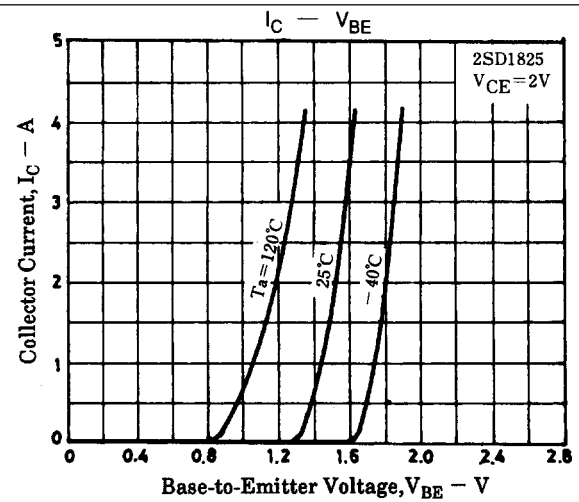
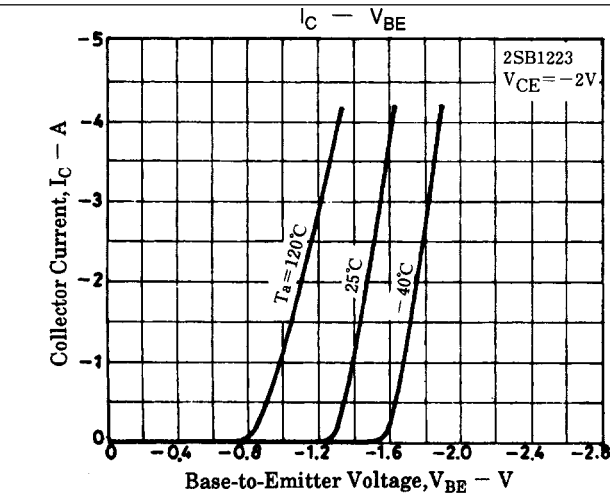
500I_{B1} = -500I_{B2} = I_C = 2A



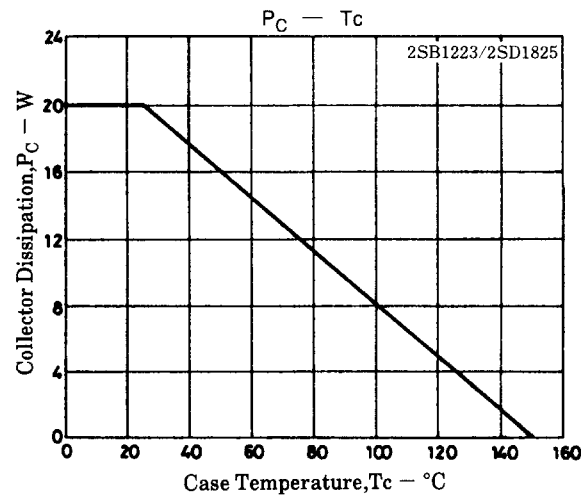
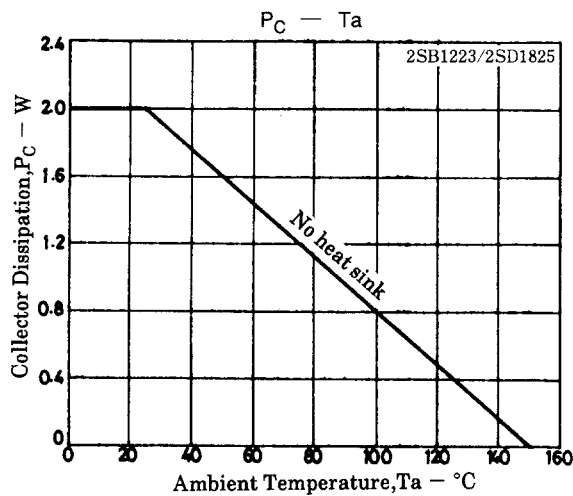
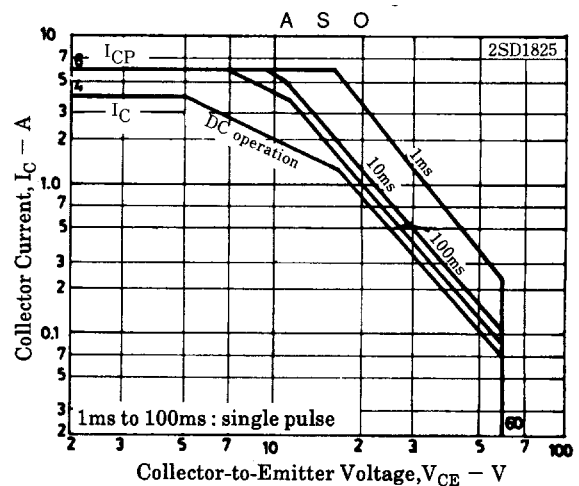
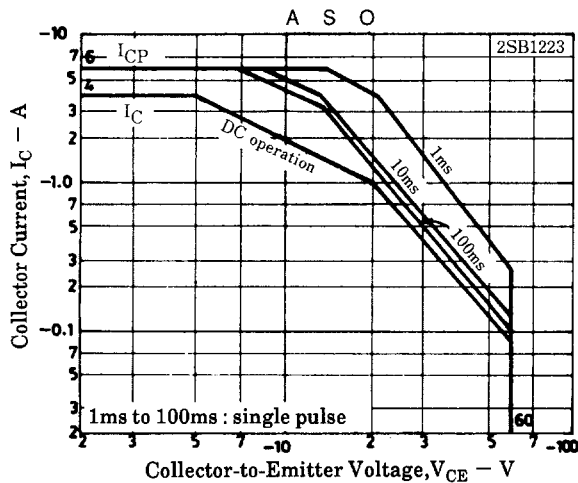
Electrical Connection



2SB1223/2SD1825



2SB1223/2SD1825



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