



2SB913/2SD1230

Driver Applications

Applications

- Motor drivers, printer hammer drivers, relay drivers, voltage regulator control.

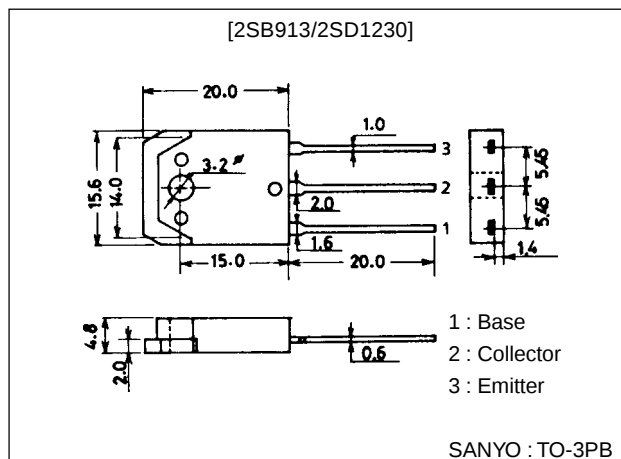
Features

- High DC current gain.
- High current capacity and wide ASO.
- Low saturation voltage.

Package Dimensions

unit:mm

2022A



() : 2SB913

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)110	V
Collector-to-Emitter Voltage	V_{CEO}		(-)100	V
Emitter-to-Base Voltage	V_{EBO}		(-)6	V
Collector Current	I_C		(-)8	A
Collector Current (Pulse)	I_{CP}		(-)12	A
Collector Dissipation	P_C		2.5	W
		Tc=25°C	60	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}	$V_{CB}=(-)80V, I_E=0$			(-)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)5V, I_C=0$			(-)3	mA
DC Current Gain	h_{FE}	$V_{CE}=(-)3V, I_C=(-)4A$	1500	4000		
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5V, I_C=(-)4A$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)4A, I_B=(-)8mA$		0.9	(-)1.5	V
				(-1.0)		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)4A, I_B=(-)8mA$			(-)2.0	V

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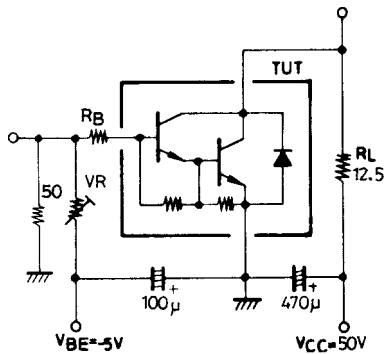
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

92098HA (KT)/10996TS (KOTO) 8-4521 4067KI/O193KI, TS No.1034-1/4

2SB913/2SD1230

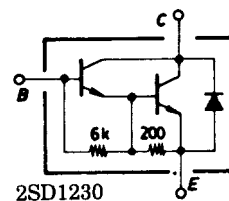
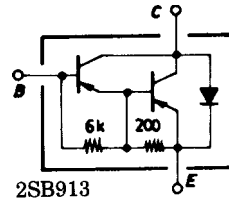
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5mA, I_E=0$	(-)110			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)50mA, R_{BE}=\infty$	(-)100			V
Turn-ON Time	t_{on}	See specified Test Circuit		(0.7)		μs
Storage Time	t_{stg}	See specified Test Circuit		0.6		μs
				(1.4)		μs
Fall Time	t_f	See specified Test Circuit		4.8		μs
				(1.5)		μs
				1.6		μs

Switching Time Test Circuit

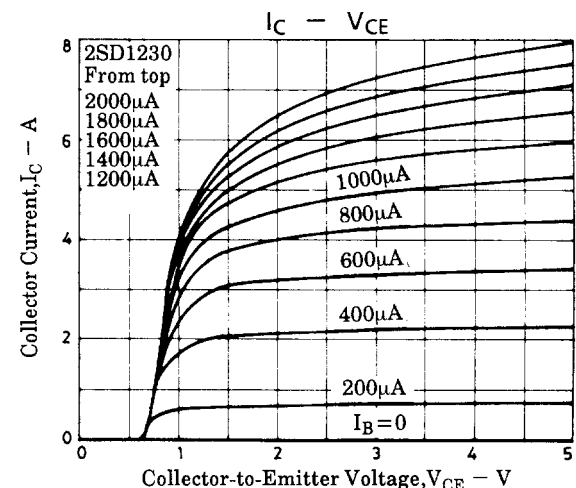
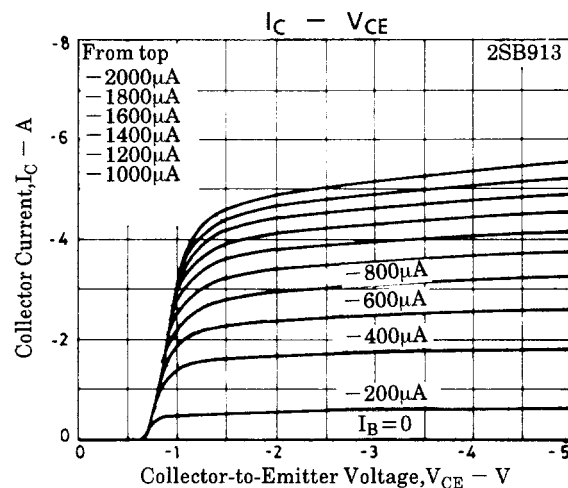
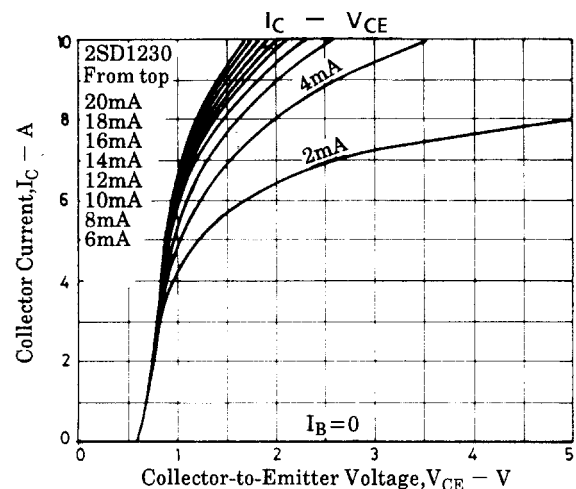
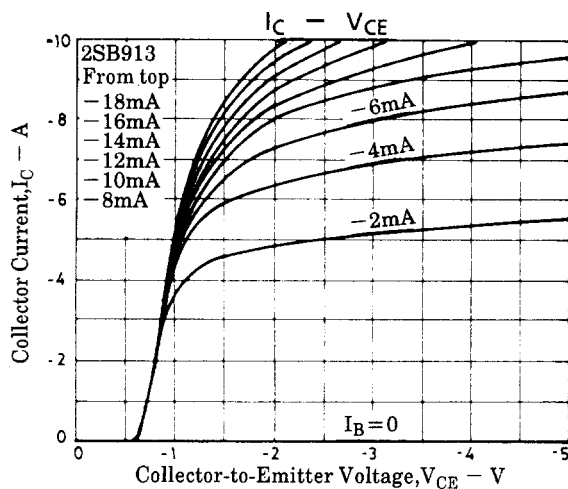


(For PNP, the polarity is reversed.)
 $PW=50\mu s$, Duty Cycle $\leq 1\%$
 $500I_{B1} = -500I_{B2} = I_C = 4A$
 Unit (resistance : Ω , capacitance : F)

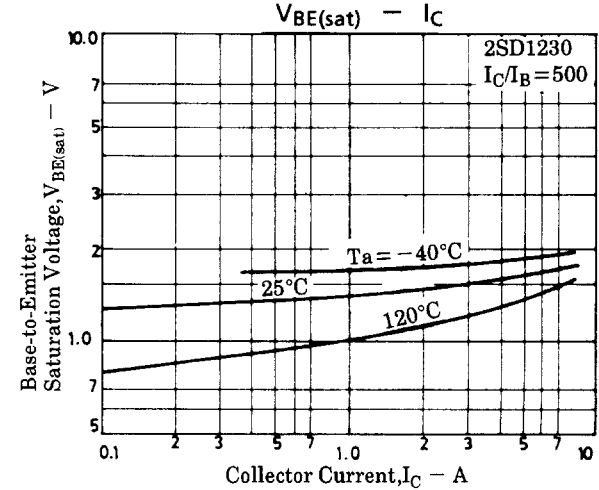
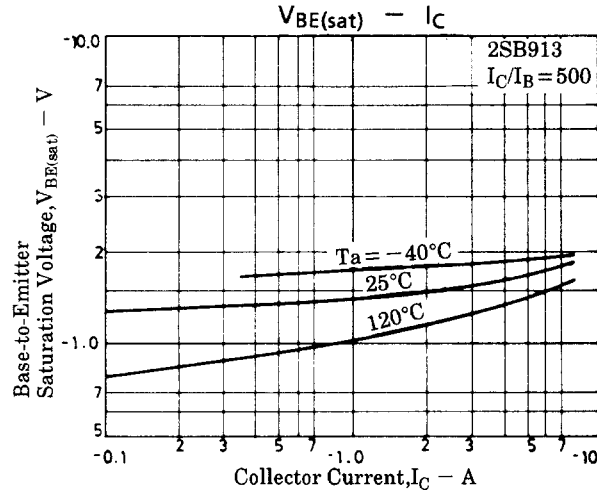
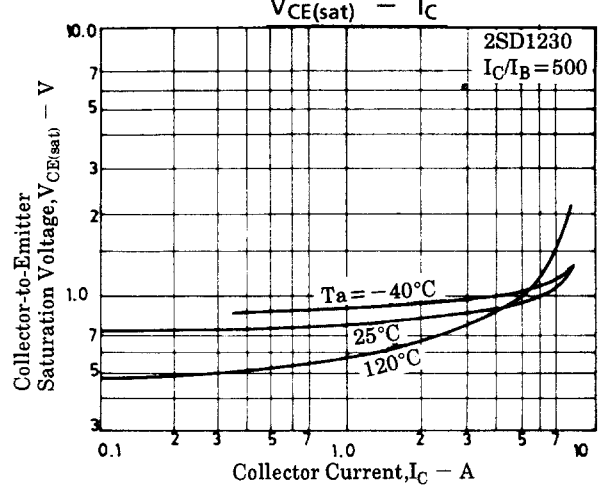
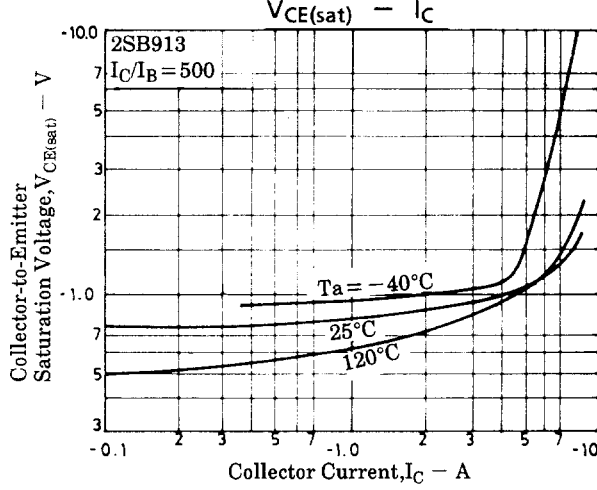
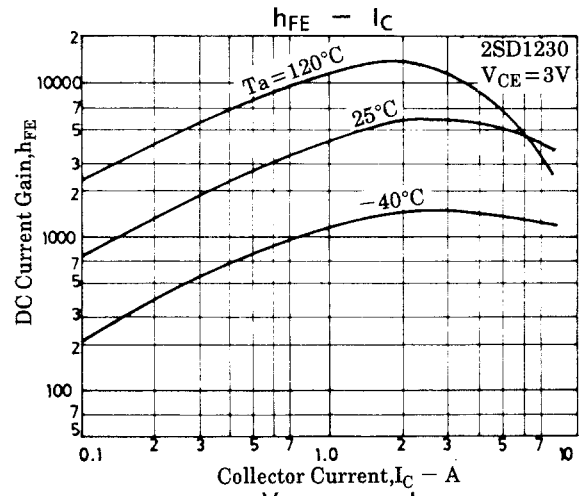
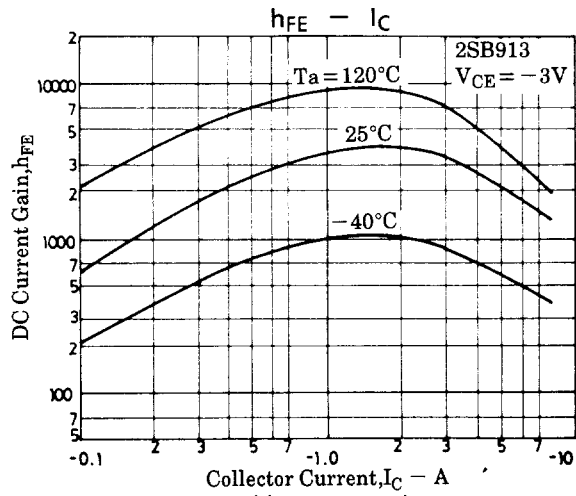
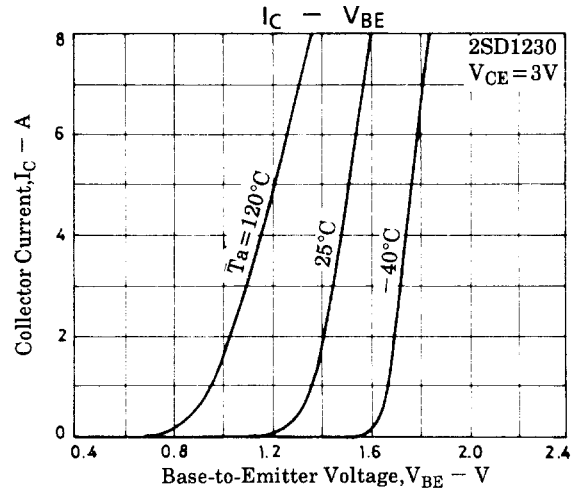
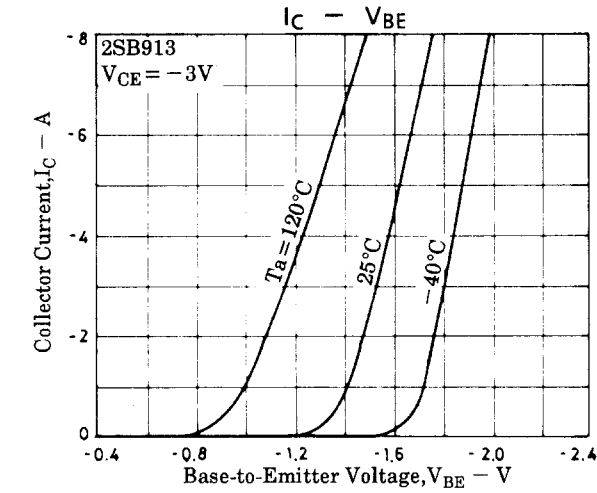
Electrical Connection

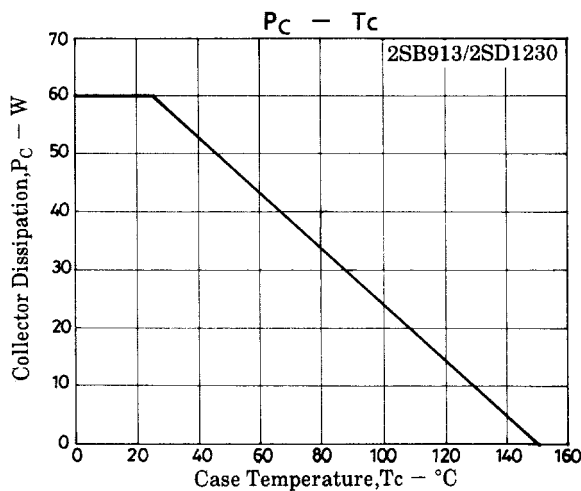
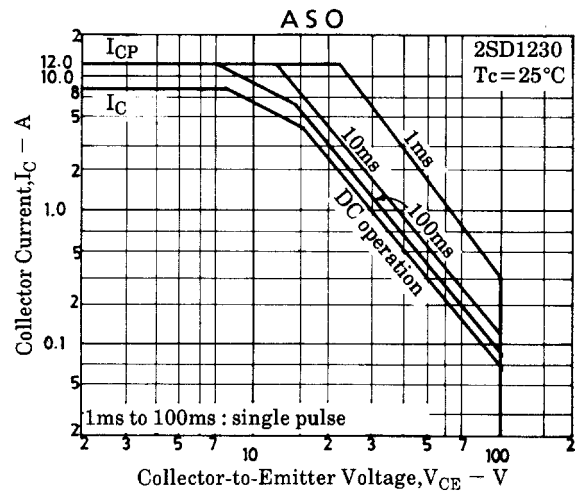
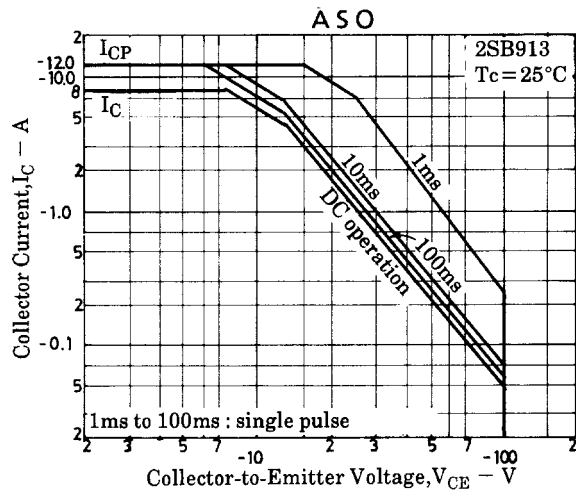


Unit (resistance : Ω , capacitance : F)



2SB913/2SD1230





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