



2SB1471/2SD2223

Driver Applications

Applications

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

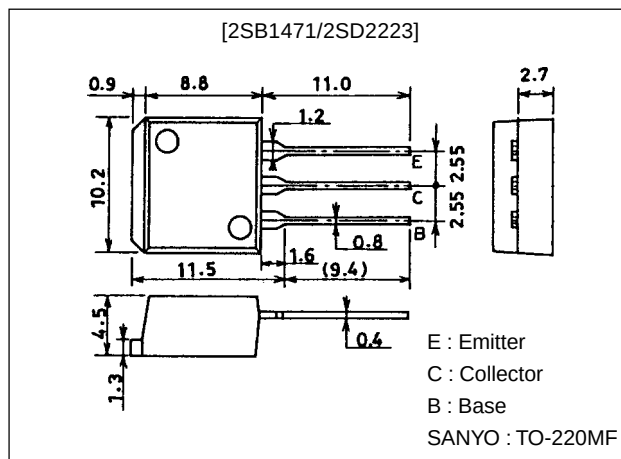
Features

- Suitable for sets whose height is restricted.
- High DC current gain.
- Large current capacity and wide ASO.

Package Dimensions

unit:mm

2049B



() : 2SB1471

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		1.65	W
		$T_c=25^\circ\text{C}$	30	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}	$V_{CB}=(-)40\text{V}, I_E=0$			(-)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)5\text{V}, I_C=0$			(-)3.0	mA
DC Current Gain	h_{FE}	$V_{CE}=(-)2\text{V}, I_C=(-)2\text{A}$	2000	5000		
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5\text{V}, I_C=(-)2\text{A}$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2\text{A}, I_B=(-)4\text{mA}$		0.9	(-)1.5	V
				(-1.0)		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2\text{A}, I_B=(-)4\text{mA}$			(-)2.0	V

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SANYO Electric Co., Ltd. Semiconductor Business Headquarters

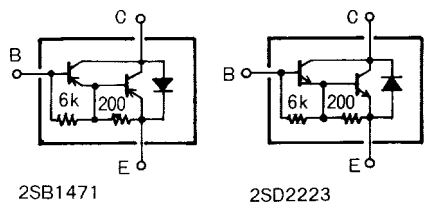
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

O2098HA (KT)/N120MH, JK (KOTO) No.3365-1/4

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

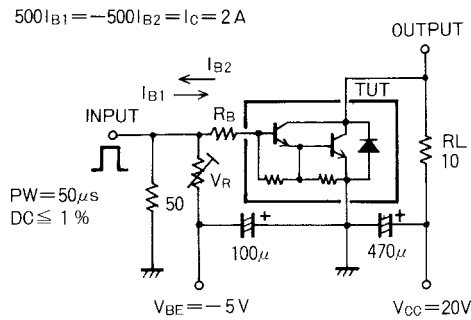
Electrical Connection



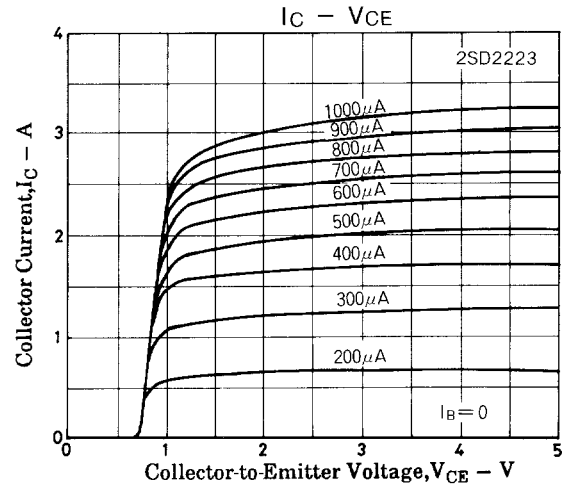
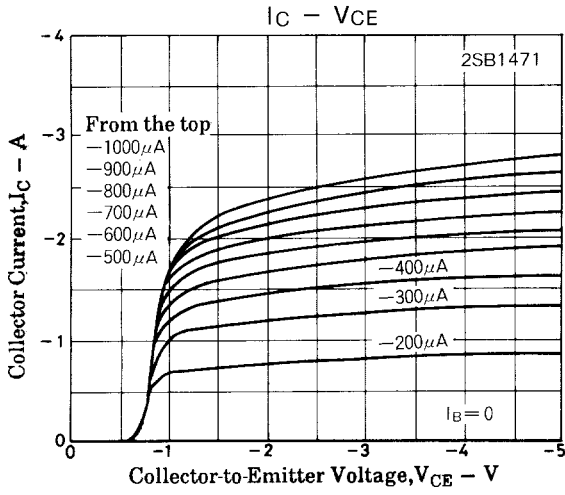
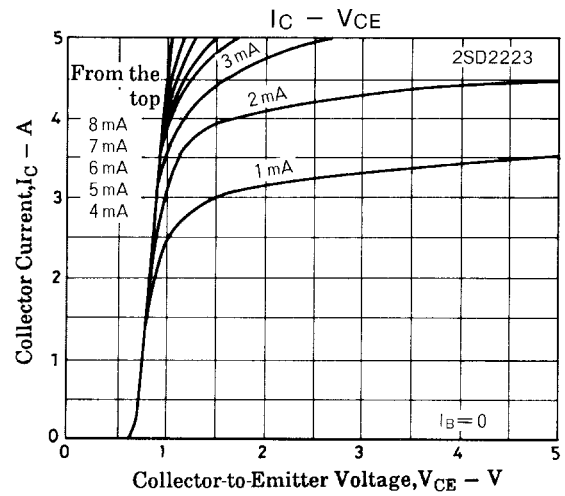
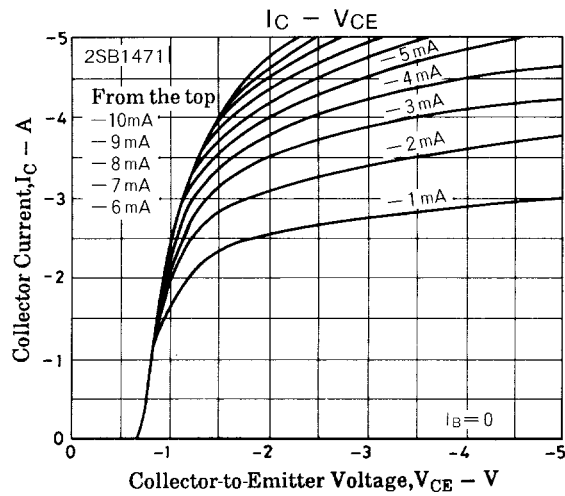
Unit (resistance: Ω)

Switching Time Test Circuit

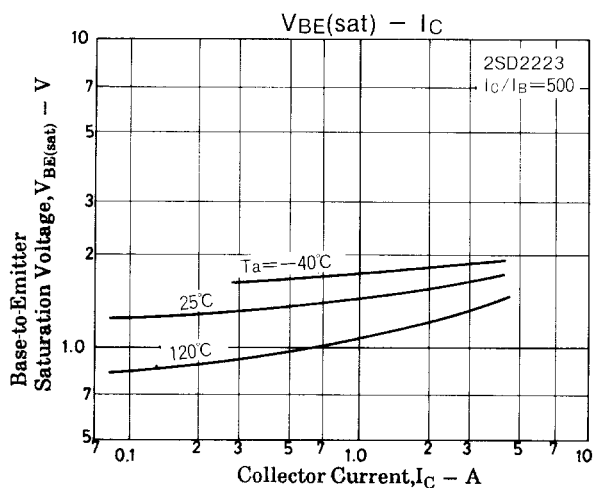
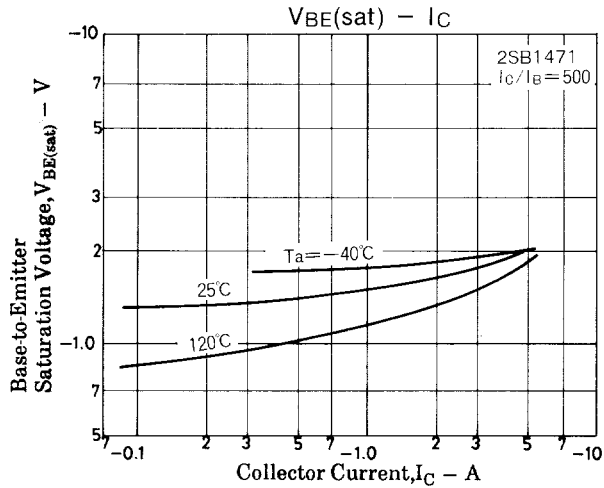
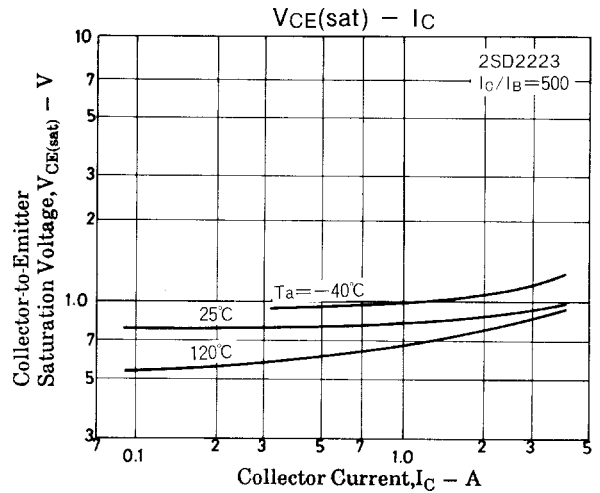
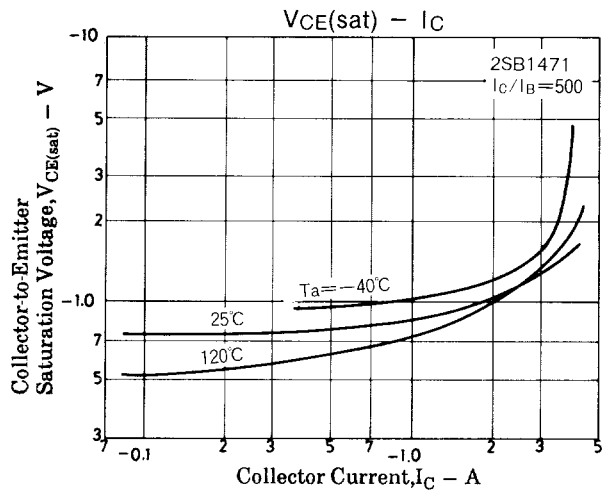
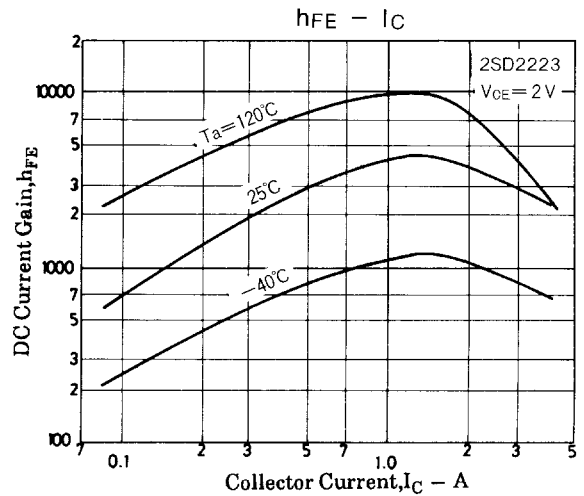
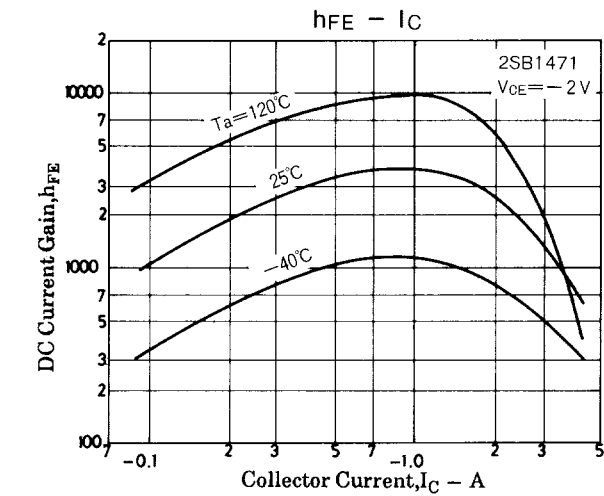
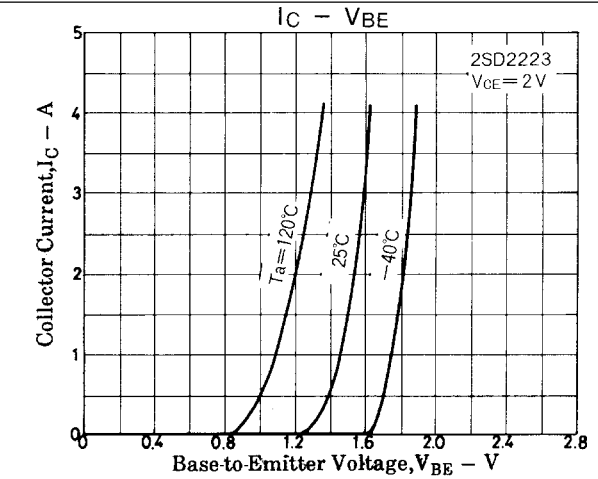
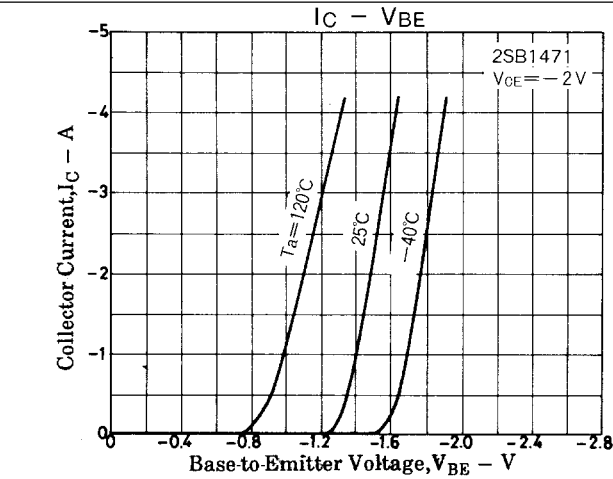
(For PNP, the polarity is reversed.)

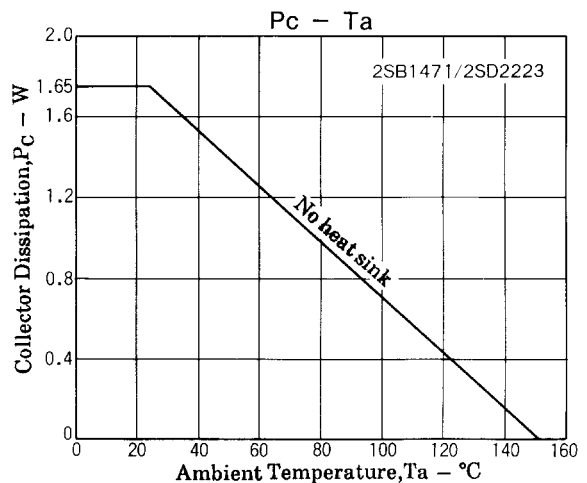
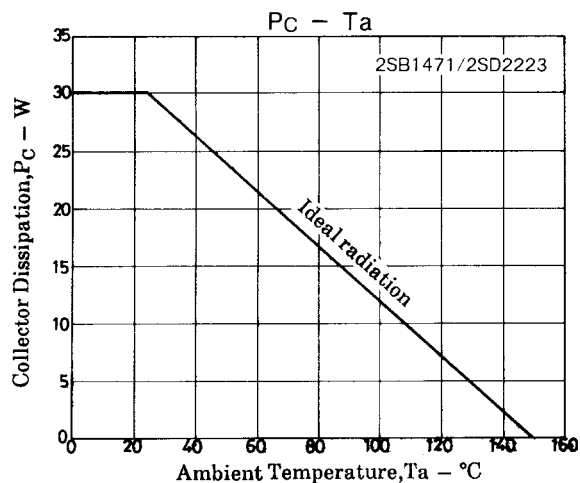
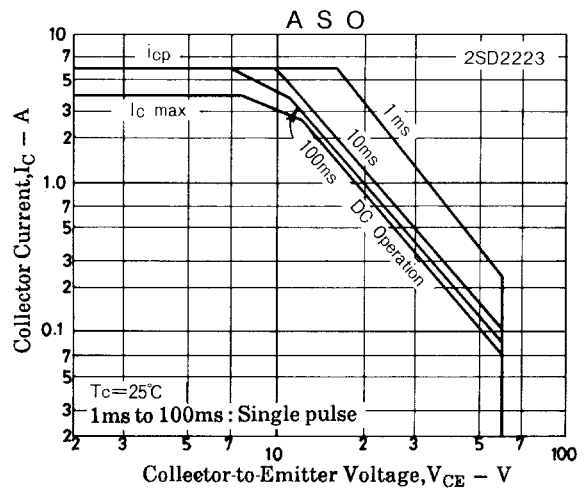
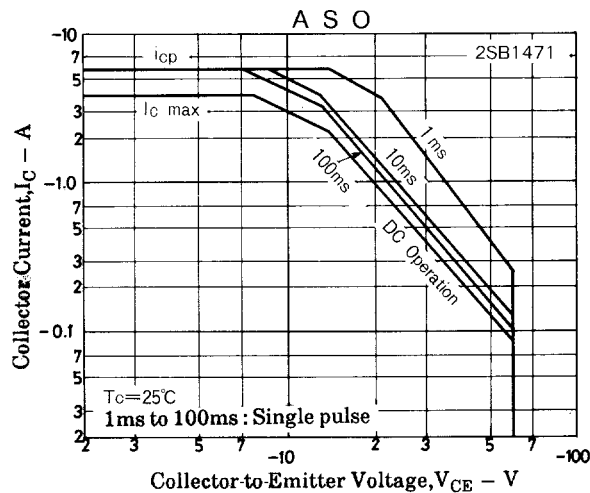


Unit (resistance: Ω , capacitance: F)



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