



## 2SB1452/2SD2201

### 80V/7A Switching Applications

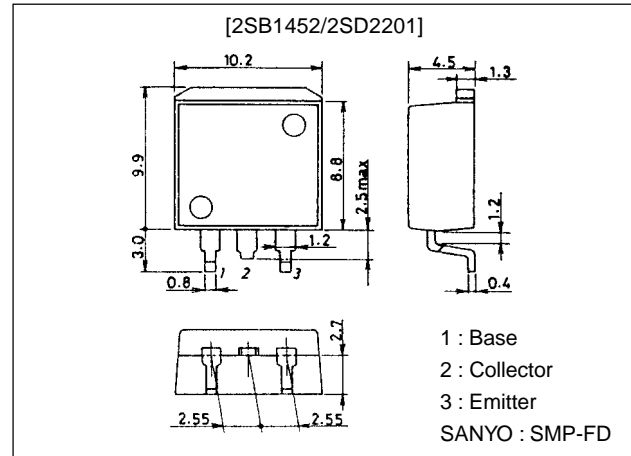
#### Features

- Surface mount type device making the following possible.
- Reduction in the number of manufacturing processes for 2SB1452/2SD2201-applied equipment.
- High density surface mount applications.
- Small size of 2SB1452/2SD2201-applied equipment.
- Low collector-to-emitter saturation voltage.
- Large current capacity.

#### Package Dimensions

unit:mm

2069B



() : 2SB1452

#### Specifications

##### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)-90	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)-80	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)-6	V
Collector Current	$I_C$		(-)-7	A
Collector Current (Pulse)	$I_{CP}$		(-)-12	A
Collector Dissipation	$P_C$		1.65	W
		$T_c=25^\circ\text{C}$	40	W
Junction Temperature	$T_J$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

##### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)80\text{V}, I_E = 0$			(-)-0.1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)-0.1	mA
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)2\text{V}, I_C = (-)1\text{A}$	70*		280*	
	$h_{FE2}$	$V_{CE} = (-)2\text{V}, I_C = (-)4\text{A}$	30			
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)5\text{V}, I_C = (-)1\text{A}$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)4\text{A}, I_B = (-)0.4\text{A}$			0.4	V
					(-)-0.5	V

\* : The 2SB1452/2SD2201 are classified by 1A  $h_{FE}$  as follows :

70	Q	140	100	R	200	140	S	280
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**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

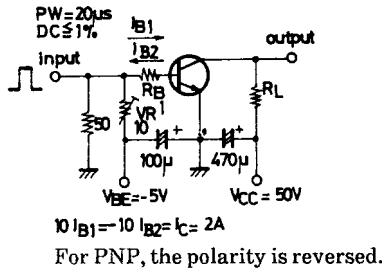
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

N1098HA (KT)/7039MO, TS No.3152-1/4

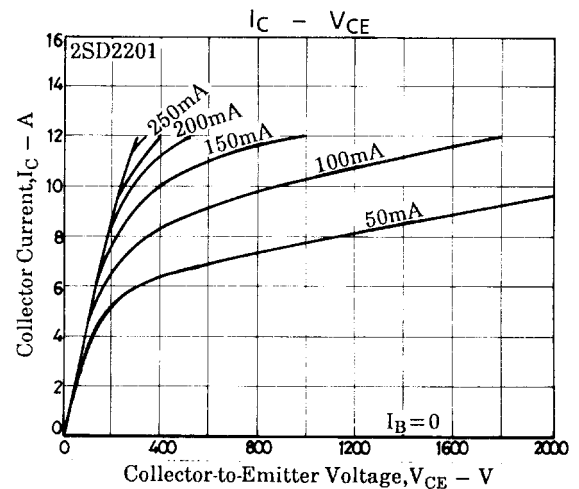
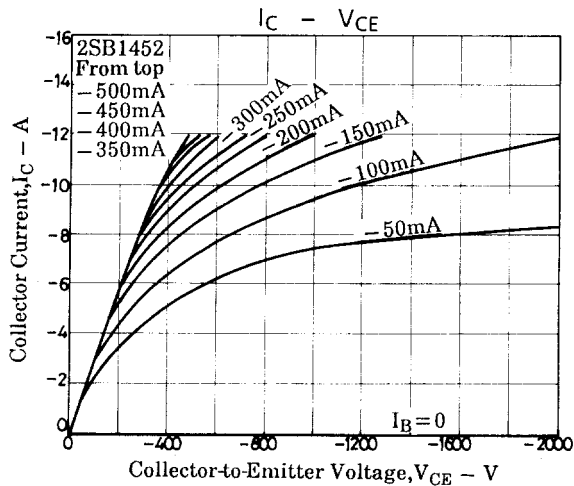
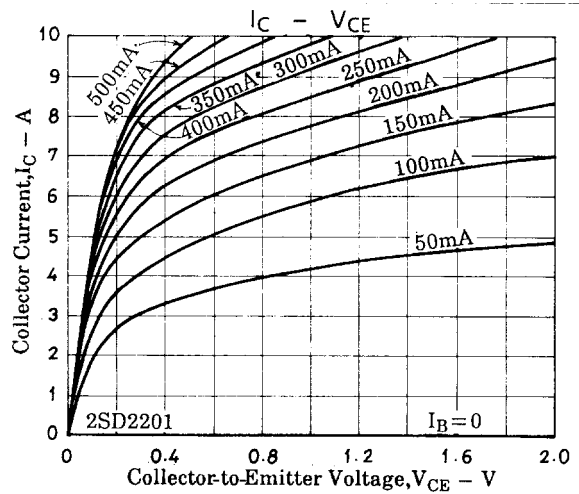
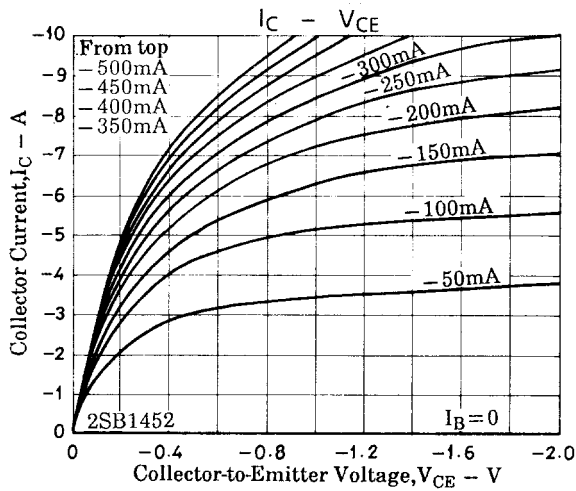
## 2SB1452/2SD2201

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-)90			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)80			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)		$\mu s$
Storage Time	$t_{stg}$	See specified test circuit.		0.1		$\mu s$
				(0.7)		$\mu s$
Fall Time	$t_f$	See specified test circuit.		1.6		$\mu s$
				(0.2)		$\mu s$
				0.4		$\mu s$

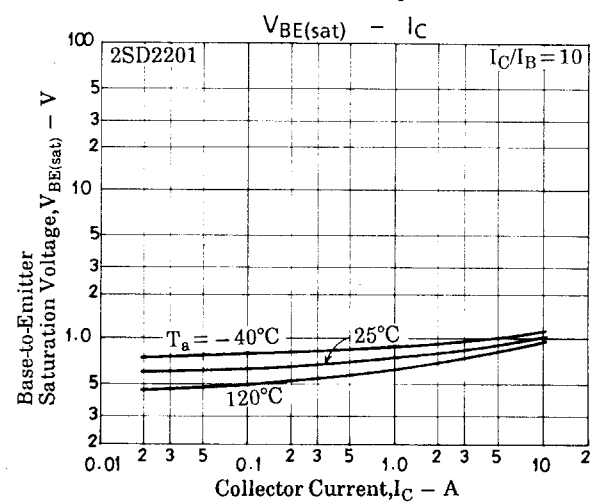
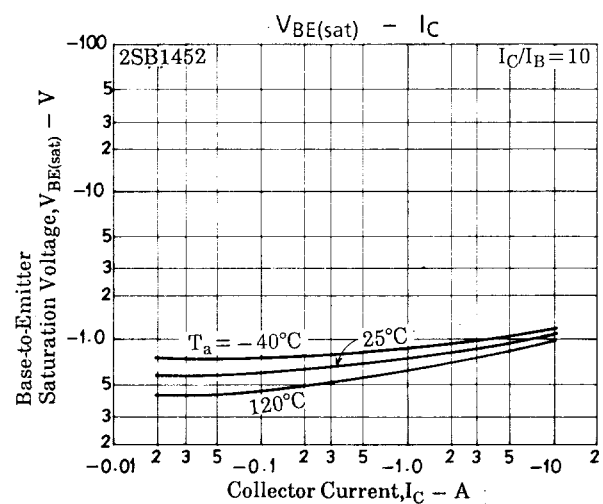
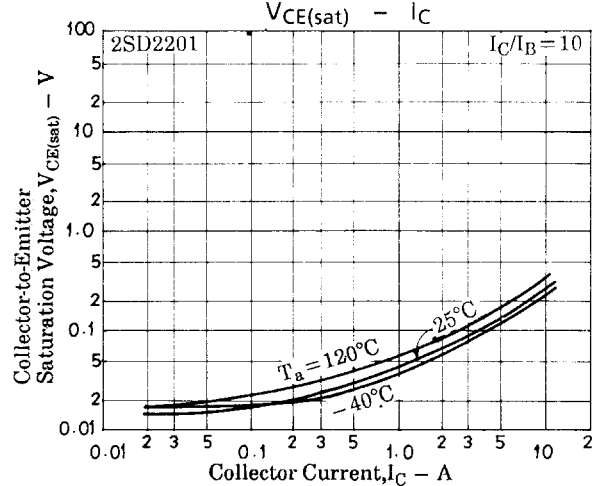
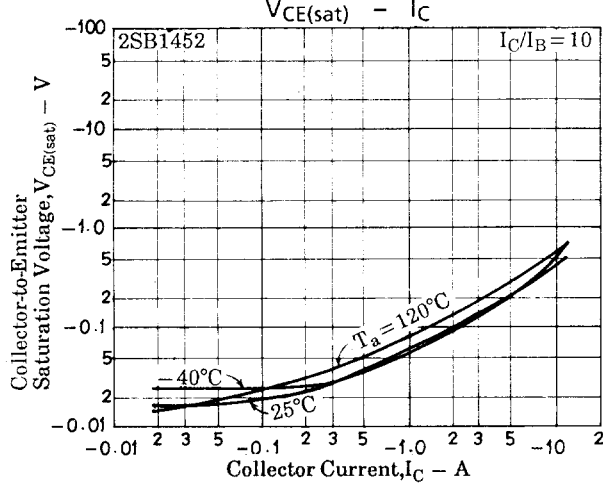
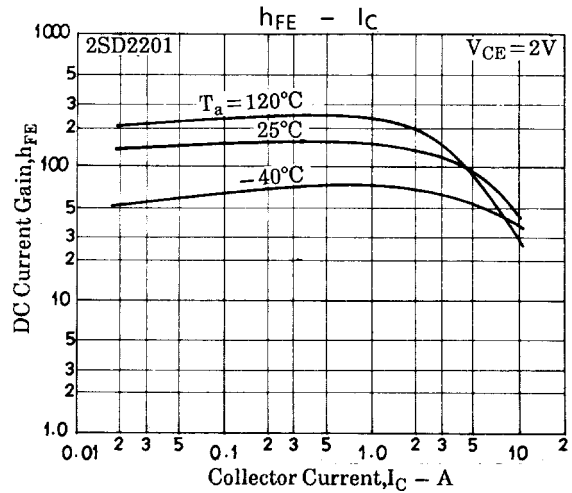
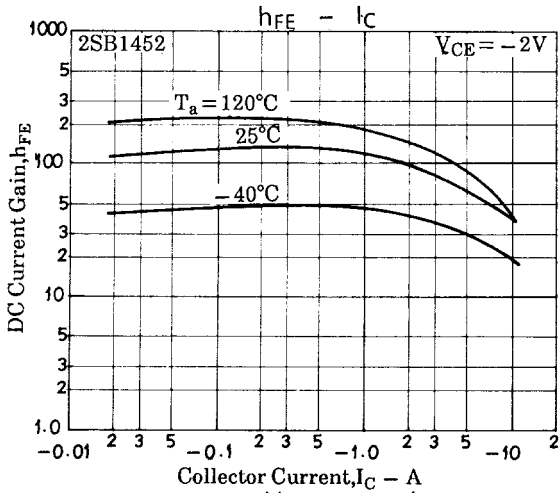
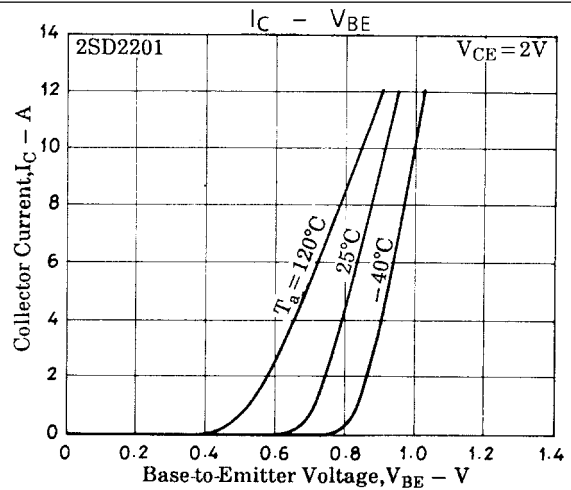
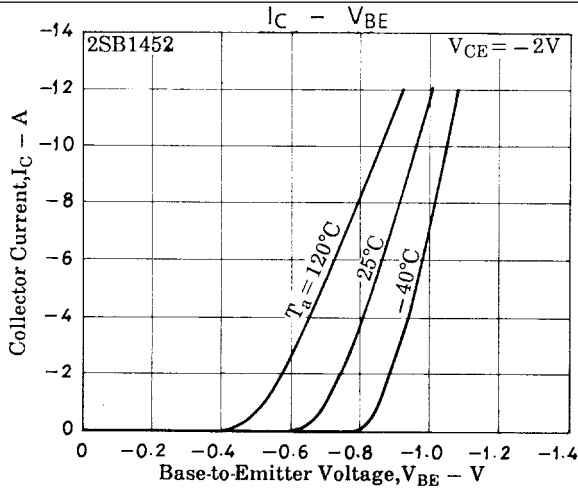
### Switching Time Test Circuit



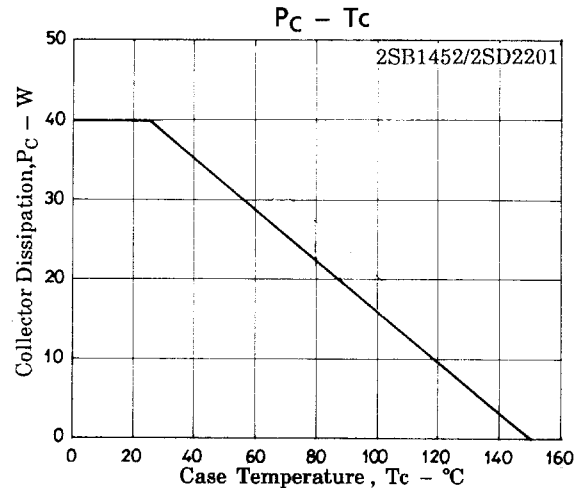
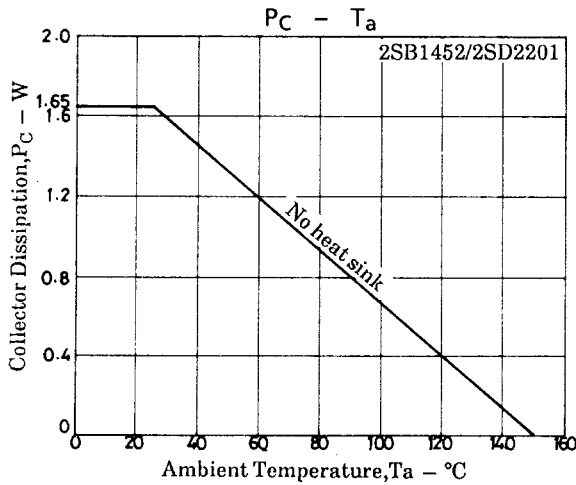
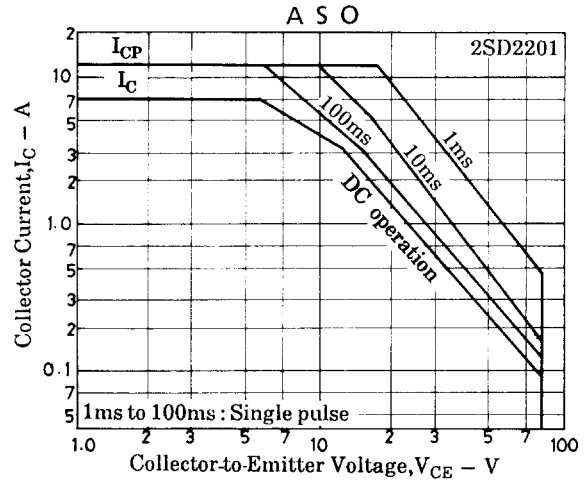
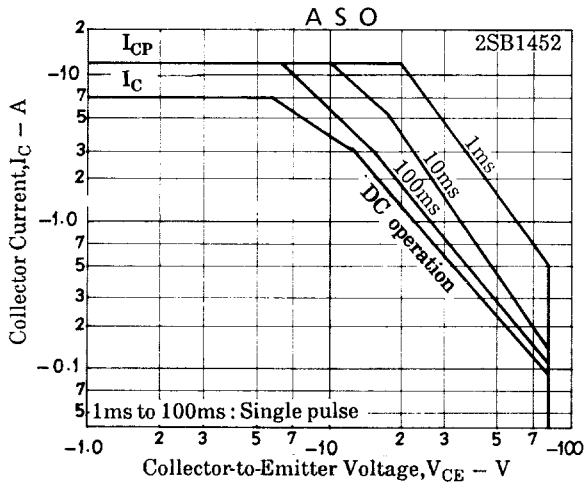
Unit (resistance :  $\Omega$ , capacitance : F)



## 2SB1452/2SD2201



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