



**2SB1472/2SD2224**  
PNP/NPN Epitaxial Planar Silicon Transistors  
**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

( ): 2SB1472

**Absolute Maximum Ratings at Ta = 25°C**

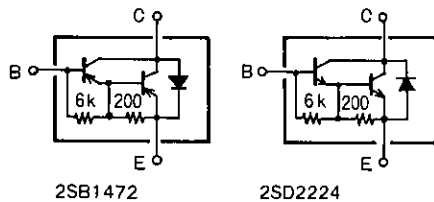
			unit
Collector to Base Voltage	V <sub>CB0</sub>	(-)	70 V
Collector to Emitter Voltage	V <sub>CE0</sub>	(-)	60 V
Emitter to Base Voltage	V <sub>EB0</sub>	(-)	6 V
Collector Current	I <sub>C</sub>	(-)	7 A
Peak Collector Current	i <sub>cp</sub>	(-)	10 A
Collector Dissipation	P <sub>C</sub>		1.65 W
		T <sub>c</sub> = 25°C	35 W
Junction Temperature	T <sub>j</sub>		150 °C
Storage Temperature	T <sub>stg</sub>		- 55 to + 150 °C

**Electrical Characteristics at Ta = 25°C**

			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = (-)40V, I <sub>E</sub> = 0			(-)	0.1 mA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> = (-)5V, I <sub>C</sub> = 0			(-)	3.0 mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = (-)2V, I <sub>C</sub> = (-)3.5A	2000	5000		
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = (-)5V, I <sub>C</sub> = (-)3.5A		20		MHz
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = (-)3.5A, I <sub>B</sub> = (-)7mA		0.9	(-)	1.5 V
				(-)	1.0	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = (-)3.5A, I <sub>B</sub> = (-)7mA			(-)	2.0 V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = (-)5mA, I <sub>E</sub> = 0	(-)	70		V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = (-)50mA, R <sub>BE</sub> = ∞	(-)	60		V

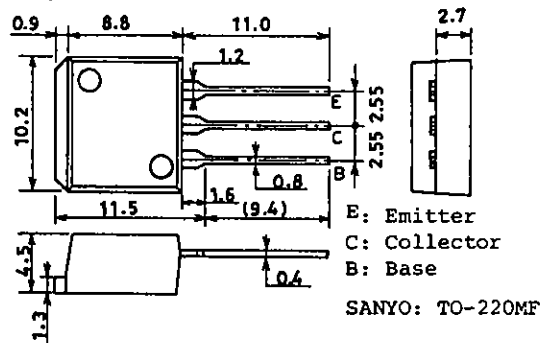
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**Electrical Connection**



Unit (resistance: Ω)

**Package Dimensions 2049B**  
(unit: mm)

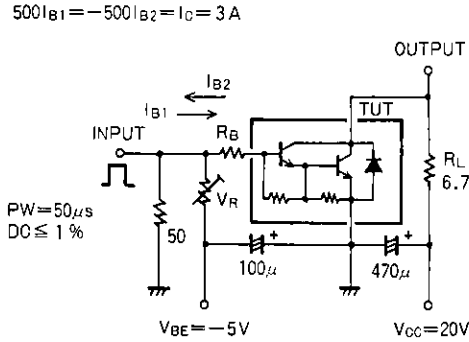


# 2SB1472/2SD2224

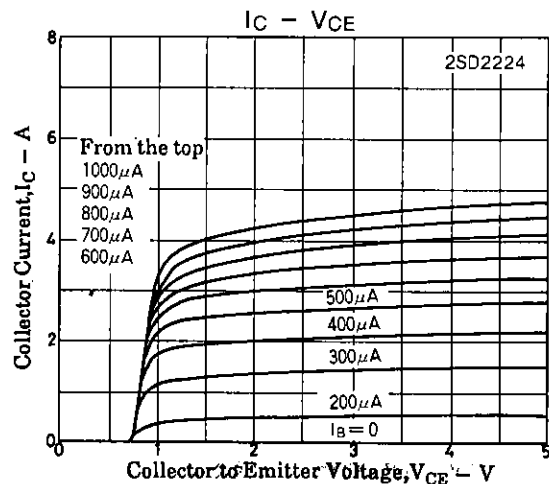
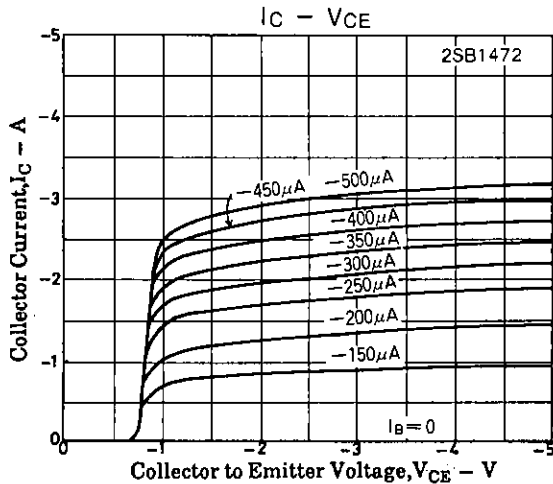
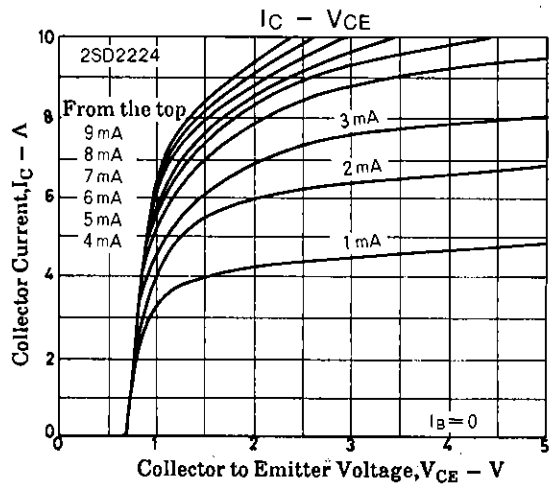
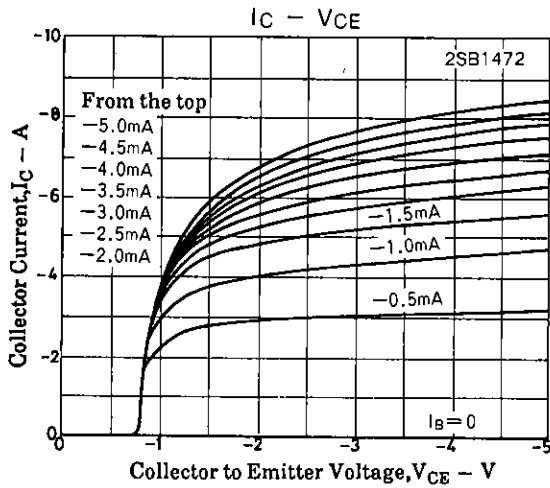
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			min	typ	max	unit
Turn-ON time	$t_{on}$	See specified Test Circuit.		(0.5)0.6		$\mu s$
Storage Time	$t_{stg}$	Same as above.		(1.5)3.0		$\mu s$
Fall Time	$t_f$	Same as above.		(1.4)1.7		$\mu s$

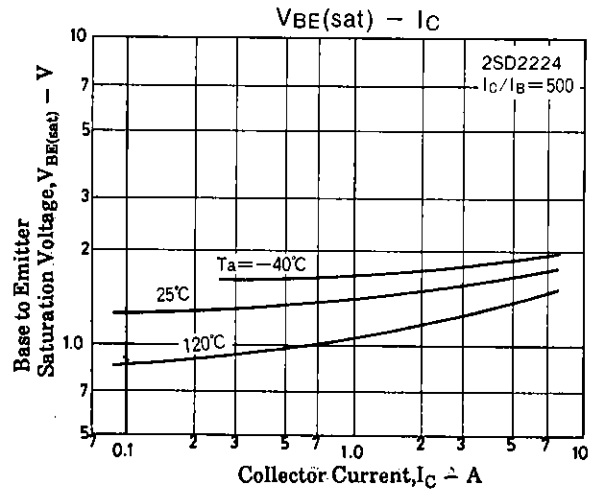
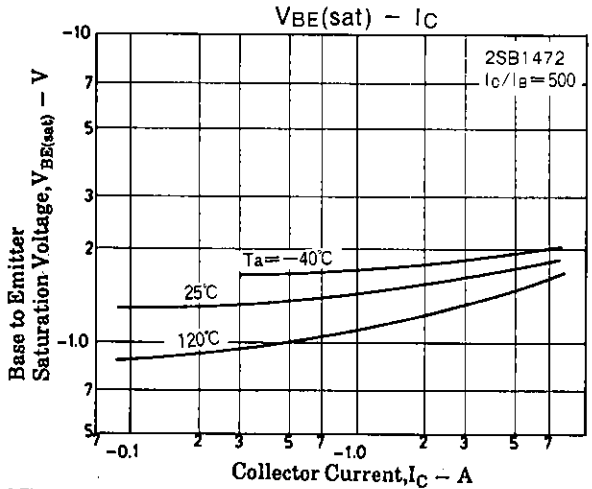
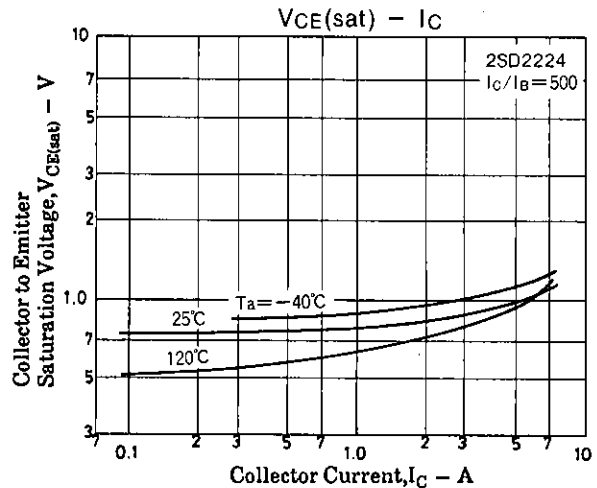
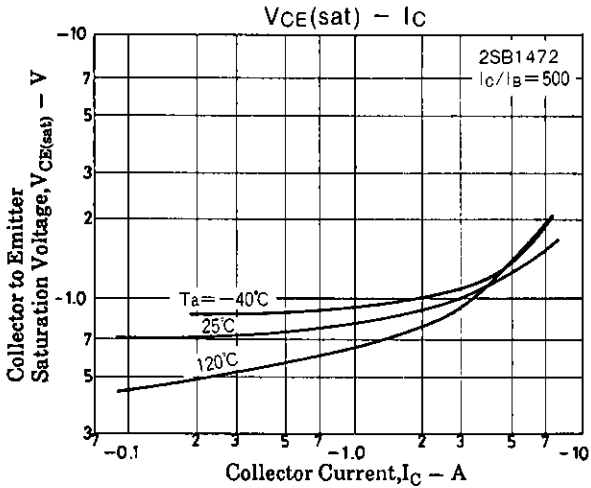
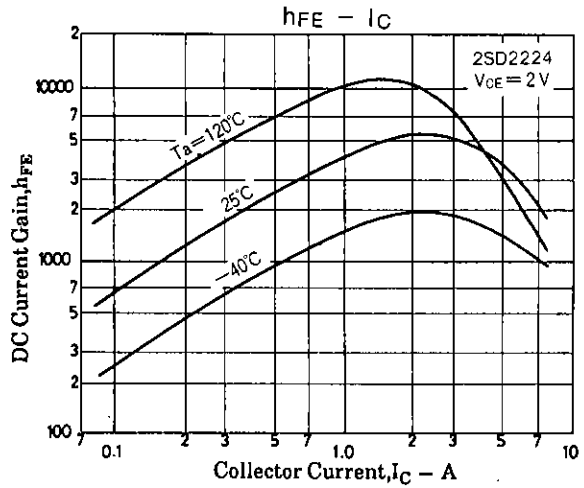
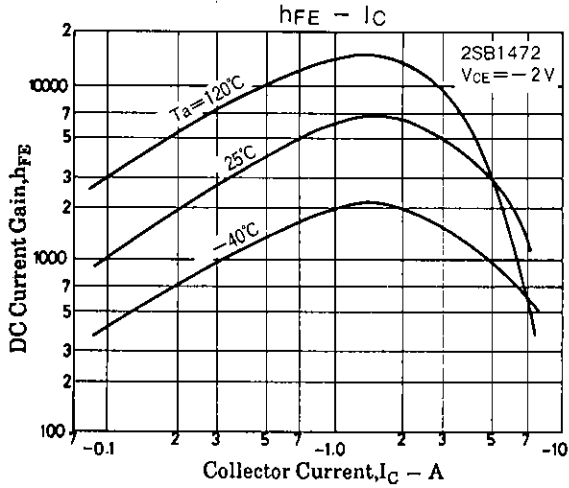
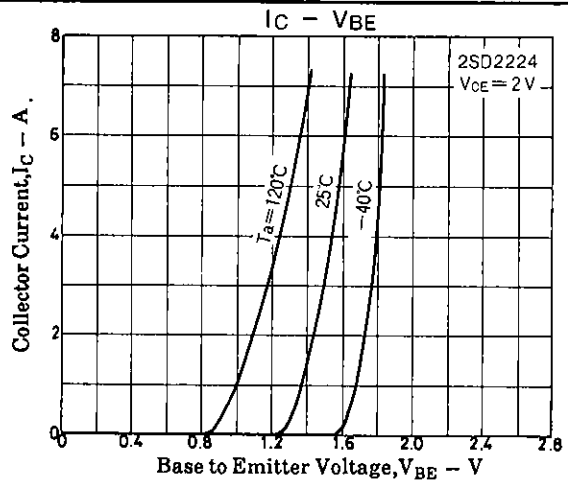
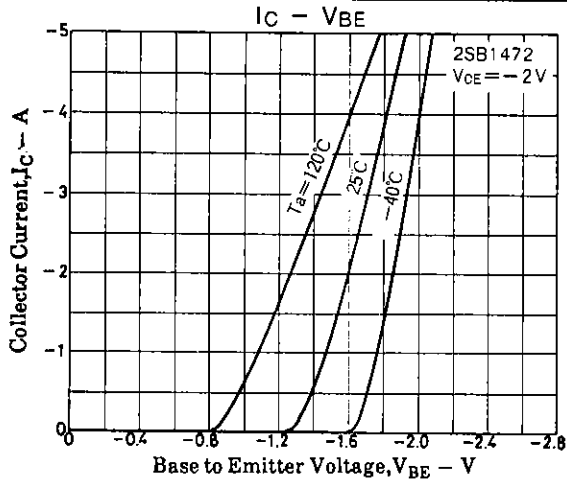
## Switching Time Test Circuit (For PNP, the polarity is reversed.)



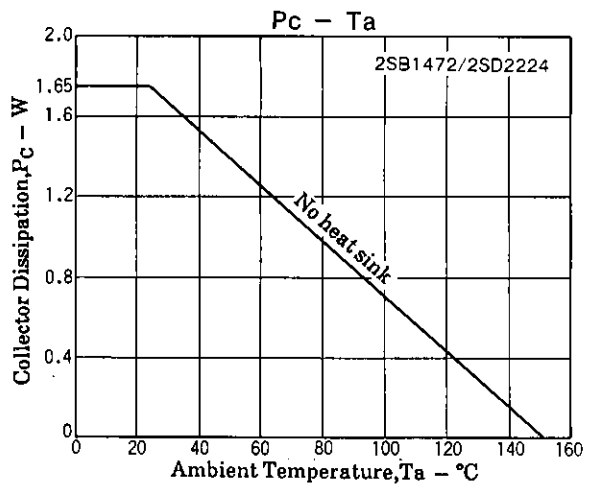
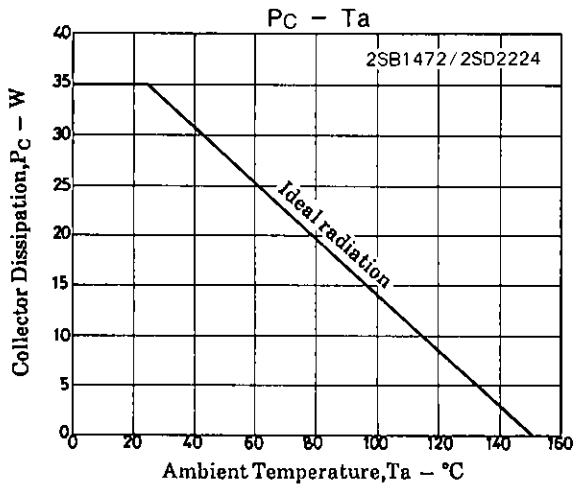
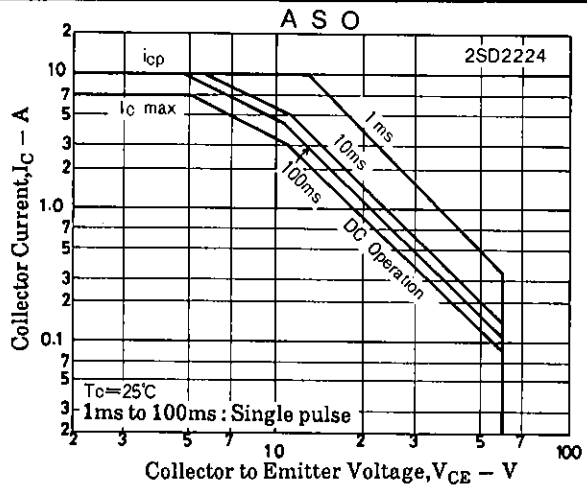
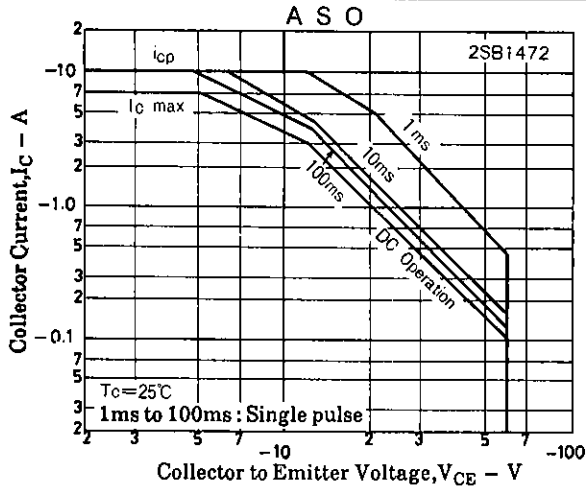
Unit (resistance:  $\Omega$ , capacitance: F)



2SB1472/2SD2224



2SB1472/2SD2224



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