



# 2SB1406

## Driver Applications

### Applications

- Relay drivers, hammer drivers, lamp drivers, motor drivers.

### Features

- Darlington connection.
- High DC current gain.
- Large current capacity.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		-80	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		-50	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		-10	V
Collector Current	I <sub>C</sub>		-1.5	A
Collector Current (Pulse)	I <sub>CP</sub>		-3	A
Collector Dissipation	P <sub>C</sub>		1	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

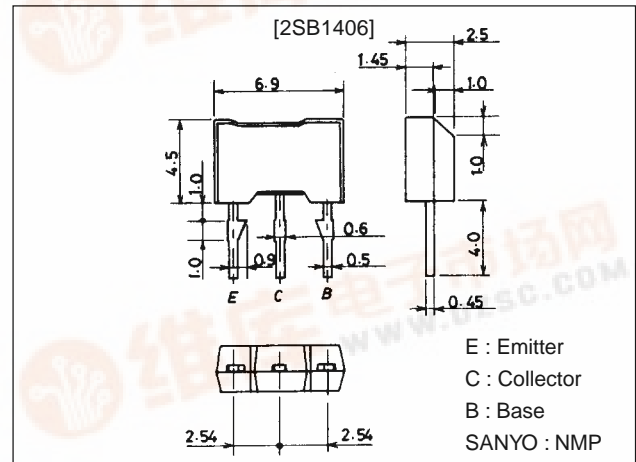
#### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =-40V, I <sub>E</sub> =0			-100	nA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =-6V, I <sub>C</sub> =0			-100	nA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA	4000			
	h <sub>FE2</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-10mA	3000			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-50mA		120		MHz
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-0.5mA	-0.9	-1.5		V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-0.5mA	-1.5	-2.0		V

### Package Dimensions

unit:mm

2064



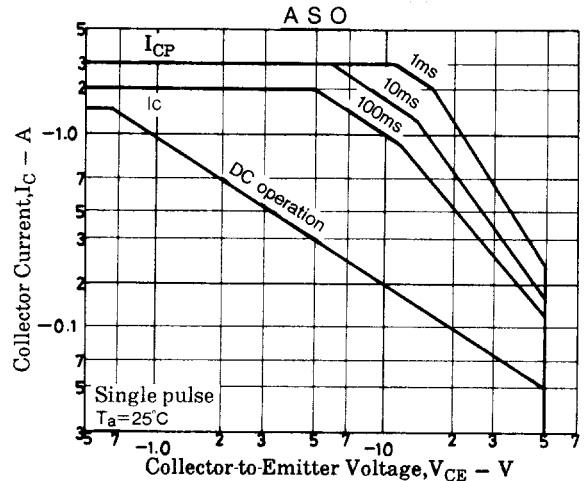
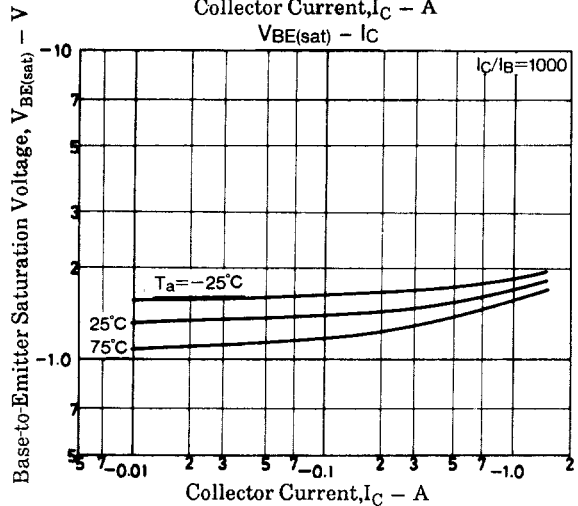
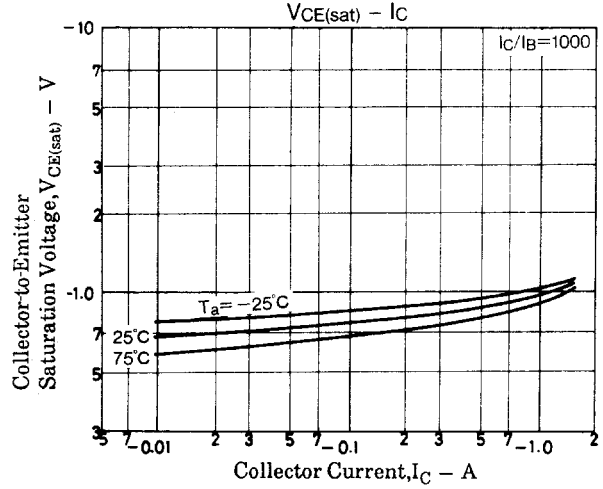
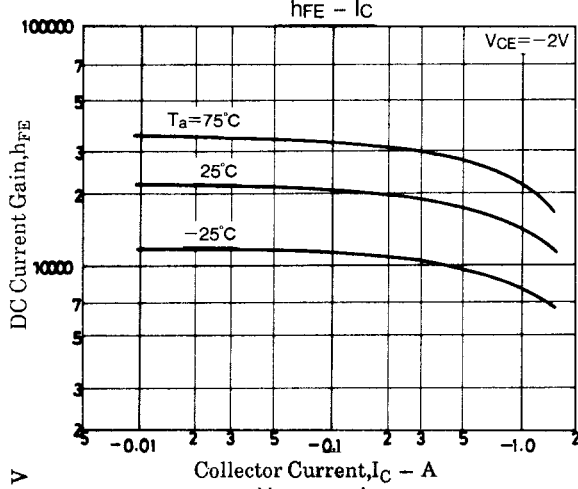
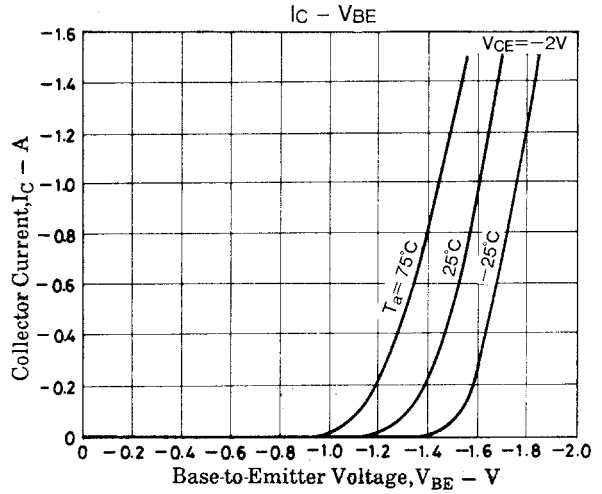
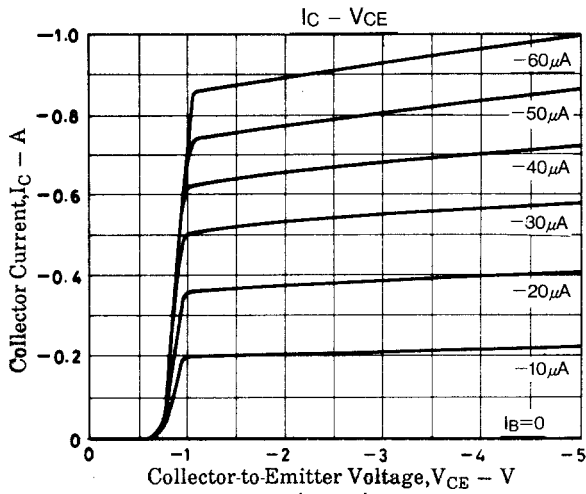
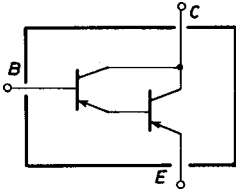
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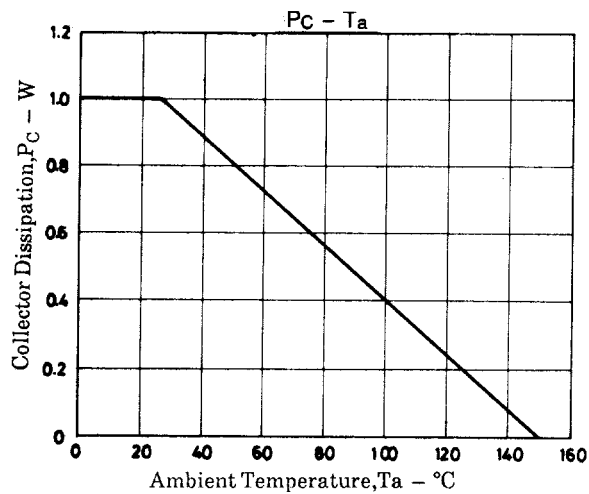
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-10			V

## Electrical Connection



## 2SB1406



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