

SANYO**2SB920L/2SD1236L****80V/5A Switching Applications****Applications**

- Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

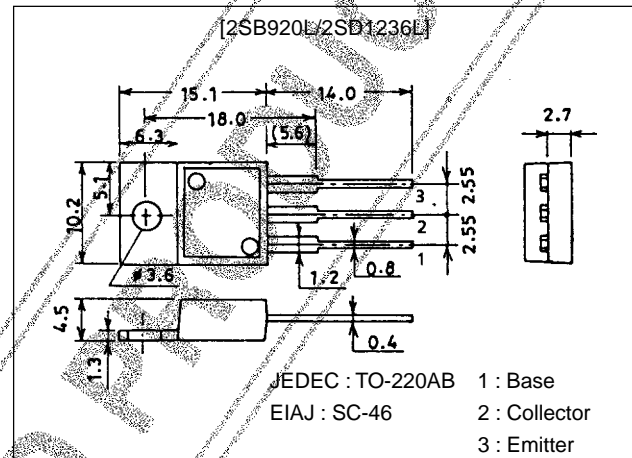
Features

- Low-saturation collector-to-emitter voltage : $V_{CE(sat)} = -0.5V$ (PNP), $0.4V$ (NPN) max.
- High current capacity.

Package Dimensions

unit:mm

2010C



() : 2SB920L

Specifications**Absolute Maximum Ratings at $T_a = 25^\circ C$**

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|--------------------|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | | (-)90 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-)80 | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-)6 | V |
| Collector Current | I_C | | (-)5 | A |
| Collector Current (Pulse) | I_{CP} | | (-)9 | A |
| Collector Dissipation | P_C | $T_C = 25^\circ C$ | 1.75 | W |
| Junction Temperature | T_J | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Electrical Characteristics at $T_a = 25^\circ C$

| 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} | $V_{EB} = (-)4V, I_C = 0$ | | | (-)0.1 | mA |
| DC Current Gain | h_{FE1} | $V_{CE} = (-)2V, I_C = (-)1A$ | 70* | | 280* | |
| | h_{FE2} | $V_{CE} = (-)2V, I_C = (-)3A$ | 30 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)5V, I_C = (-)1A$ | | 20 | | MHz |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)3A, I_B = (-)0.3A$ | | | 0.4 | V |
| | | | | | (-)0.5 | V |

* : The 2SB920L/2SD1236L are classified by $I_A h_{FE}$ as follows :

70 Q 140 100 R 200 140 S 280

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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

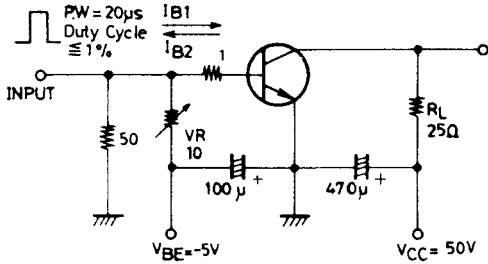
SANYO Electric Co., Ltd. Semiconductor Business Headquarters

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2SB920L/2SD1236L

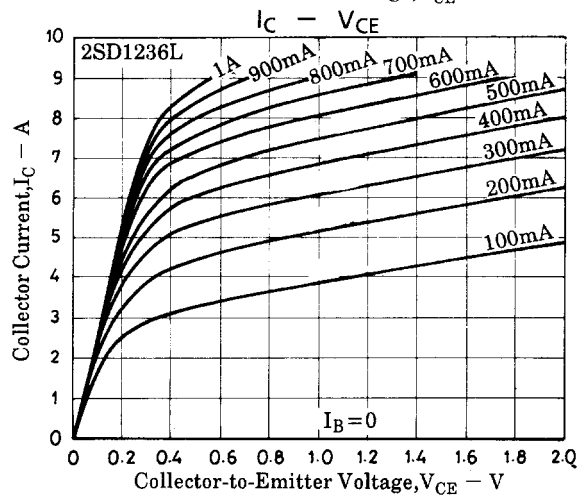
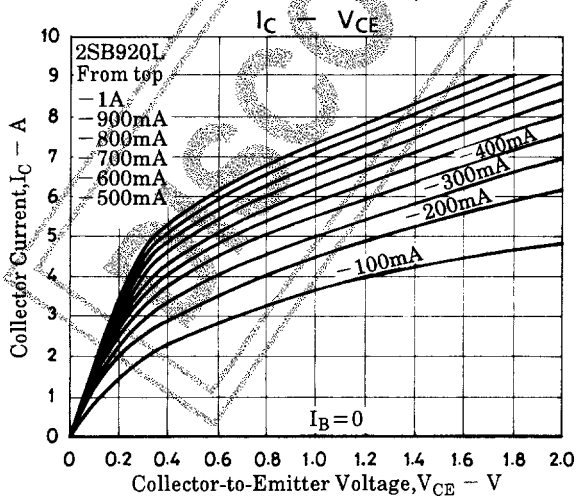
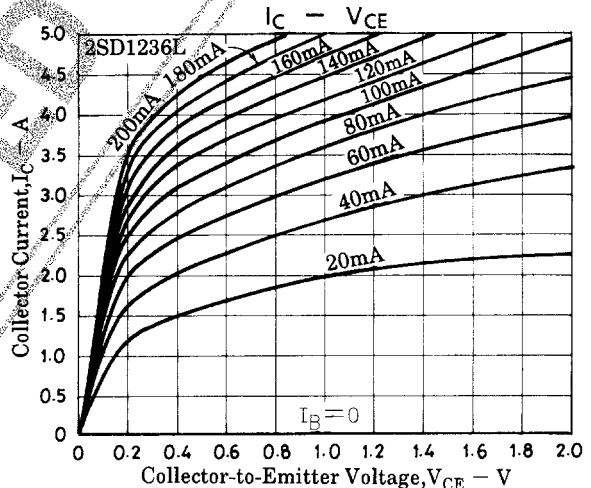
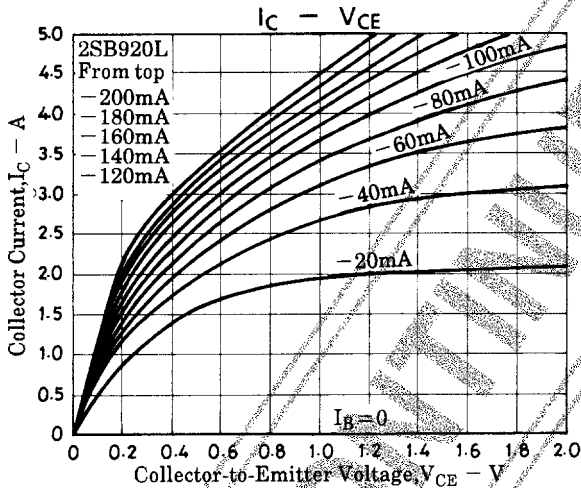
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|---------------------------------|---------|-------|-----|---------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)1mA, I_E = 0$ | (-90) | | | V |
| Collector-to-Emitter Breakdown 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) | | μs |
| Storage Time | t_{stg} | See specified Test Circuit | | 0.1 | | μs |
| | | | | (0.7) | | μs |
| Fall Time | t_f | See specified Test Circuit | | 1.2 | | μs |
| | | | | (0.2) | | μs |
| | | | | 0.4 | | μs |

Switching Time Test Circuit

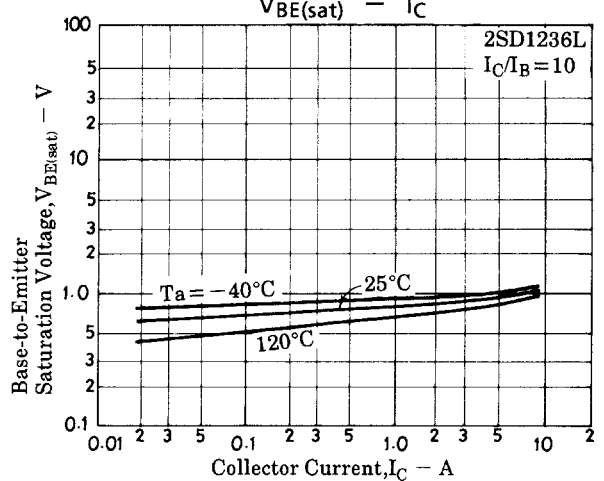
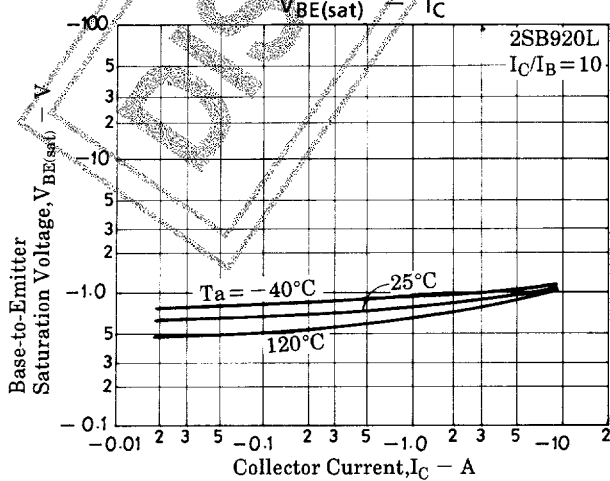
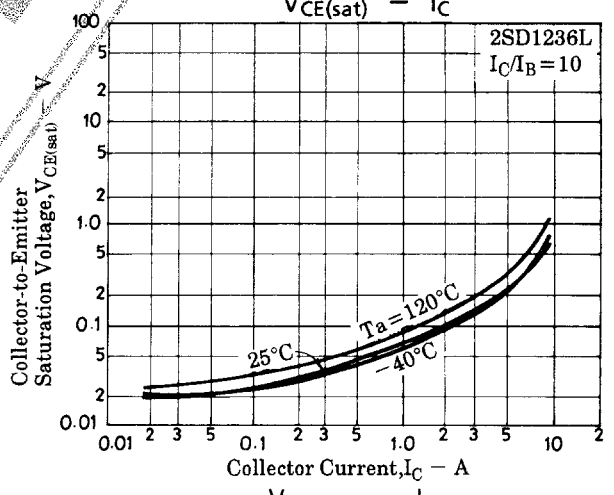
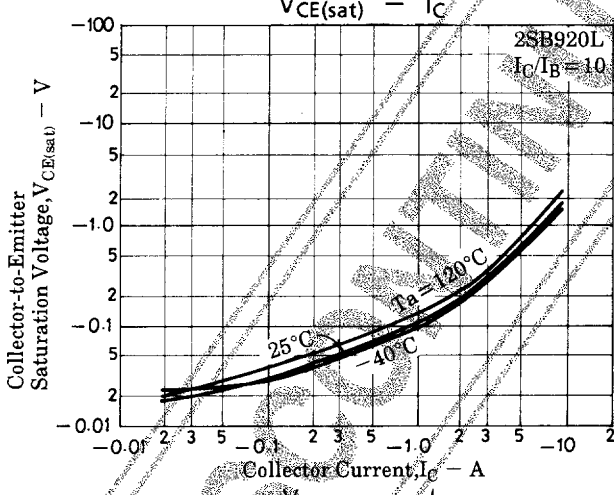
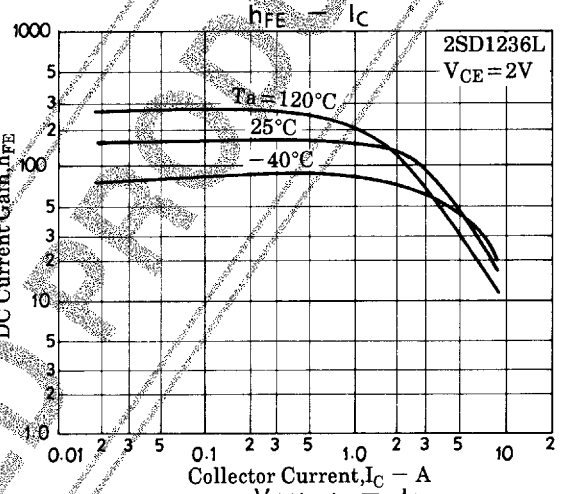
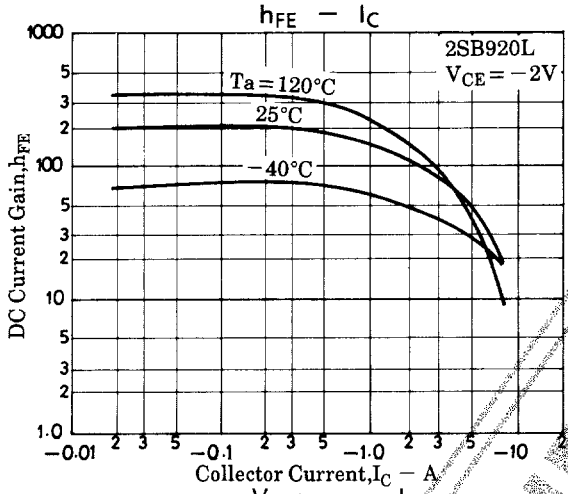
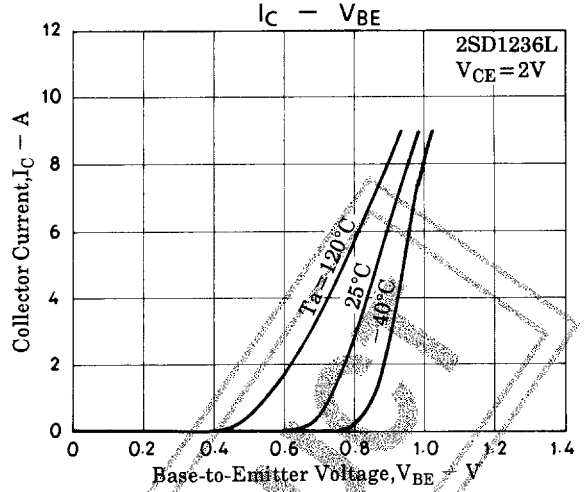
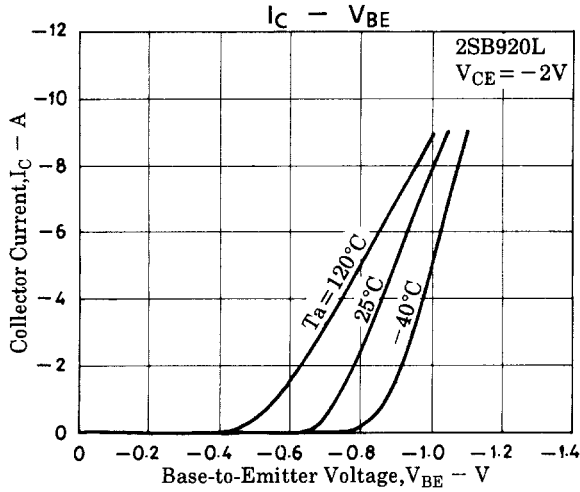


(For PNP, the polarity is reversed.)

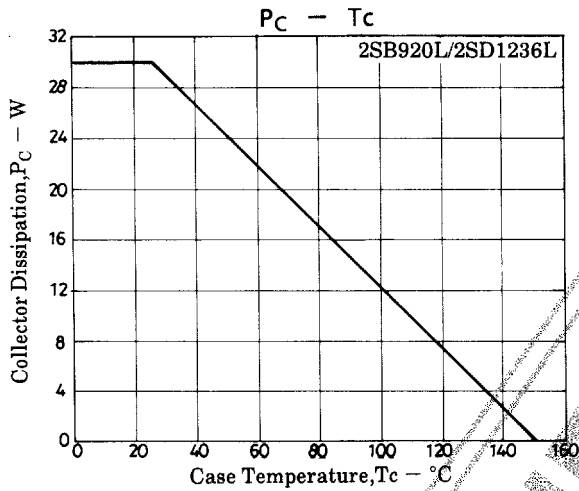
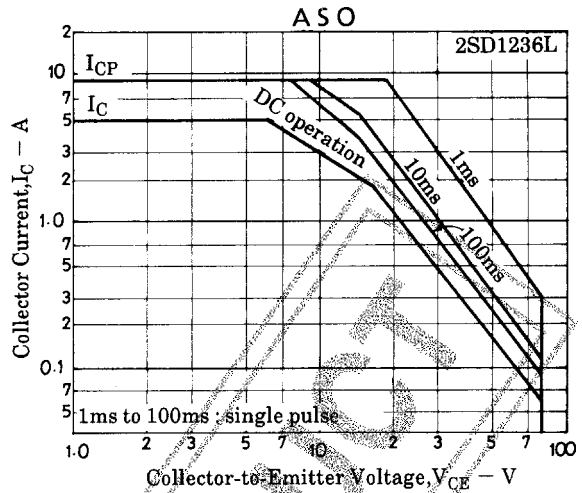
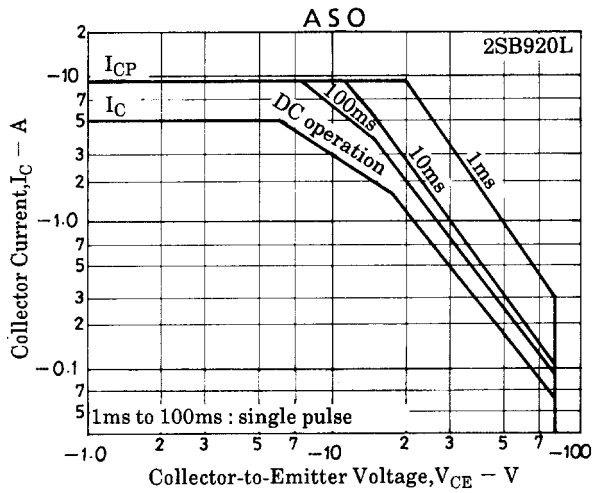
$10I_{B1} = -10I_{B2} = I_C = 2A$
Unit (resistance : Ω , capacitance : F)



2SB920L/2SD1236L



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