

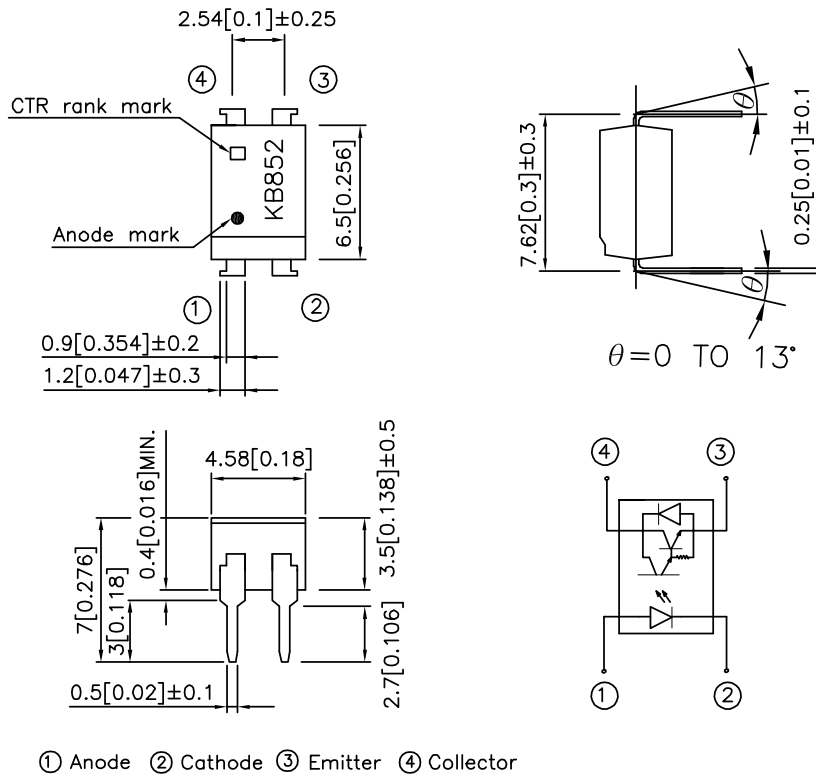
KB852Series

Features

- 1.High collector-emitter voltage.
(Vceo:350V)
- 2.High isolation voltage between input and output.
(Viso:5000Vrms)
- 3.Compact dual-in-line package.
- 4.High current transfer ratio.
(CTR:MIN.1000% at IF=1mA, Vce=2V)
- 5.Rohs compliant.

Applications

- 1.Telephone sets.
- 2.Interface with various power supply circuits, power distribution boards.
- 3.Copiers,facsimiles.
- 4.Numerical control machines.



UNIT : MM[INCH]
TOLERANCE : ±0.5[±0.02] UNLESS OTHERWISE NOTED.

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*Absolute Maximum Ratings (Ta=25°C)

| Parameter | | Symbol | Rating | Unit |
|--------------------------|-----------------------------|--------|-------------|------|
| Input | Forward current | IF | 50 | mA |
| | Reverse voltage | VR | 6 | V |
| | Power dissipation | P | 70 | mW |
| Output | Collector-emitter voltage | VCEO | 350 | V |
| | Emitter-collector voltage | VECO | 0.1 | V |
| | Collector current | IC | 150 | mA |
| | Collector power dissipation | Pc | 150 | mW |
| Total power dissipation | | P tot | 200 | mW |
| *1 Isolation voltage | | V iso | 5000 | Vrms |
| Operating temperature | | T opr | -30 to +100 | °C |
| Storage temperature | | T stg | -55 to +125 | °C |
| *2 Soldering temperature | | T sol | 260 | °C |

*1 40 to 60%RH, AC for1 minute.

*2 For 10 seconds.

*Electro-optical Characteristics

| Parameter | | Symbol | Conditions | Min. | Typ. | Max. | Unit | |
|--------------------------|--------------------------------------|-----------|---------------|----------------------------|------|------------------|-------|----|
| Input | Forward voltage | VF | IF=10mA | - | 1.2 | 1.4 | V | |
| | Peak forward voltage | VFM | IFM=0.5A | - | - | 3.0 | V | |
| | Reverse current | IR | VR=4V | - | - | 10 | uA | |
| Output | Collector dark current | ICEO | Vce=200V IF=0 | - | - | 10 ⁻⁷ | A | |
| Transfer characteristics | Current transfer ration | | CTR | IF=1mA Vce=2V | 1000 | 4000 | 15000 | % |
| | Collector-emitter saturation voltage | | VCE (sat) | IF=20mA IC=100mA | - | - | 1.2 | V |
| | Response time | Rise time | tr | Vce=2V IC=20mA RL=1000Ω | - | 100 | 300 | uS |
| | | Fall time | tr | | - | 20 | 100 | uS |

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Fig. 1 Forward Current vs. Ambient Temperature

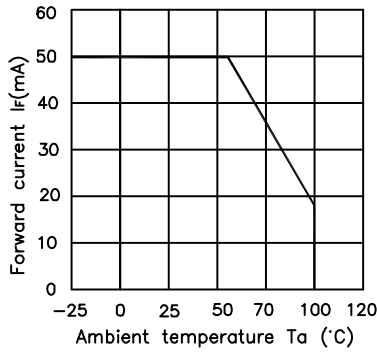


Fig. 2 Collector Power Dissipation VS Ambient Temperature

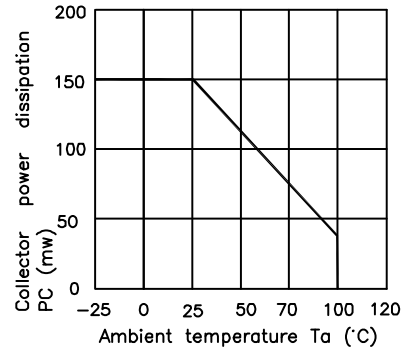


Fig. 3 Current Transfer Ratio vs. Forward Current

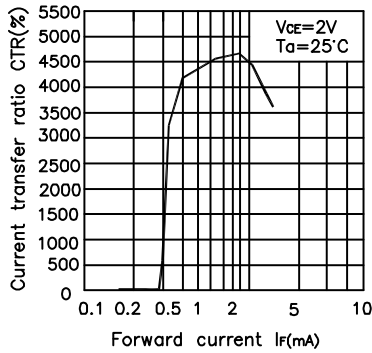


Fig. 4 Forward Current vs. Forward voltage

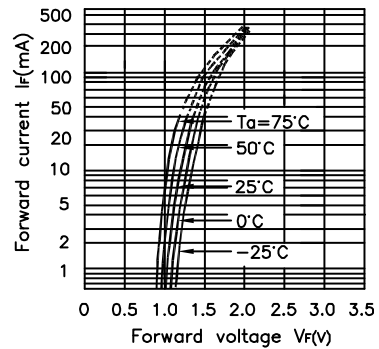


Fig. 5 Collector Current vs. Collector-emitter Voltage

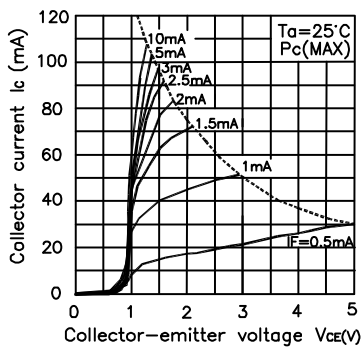
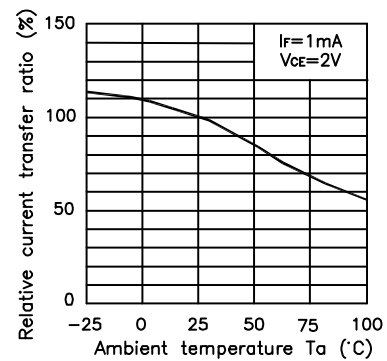
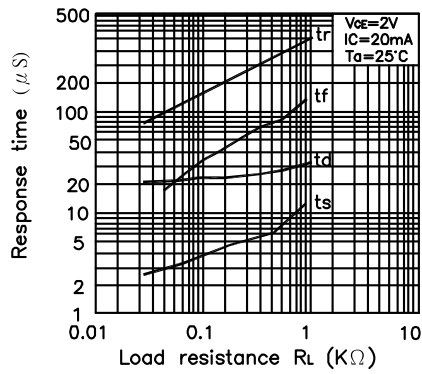


Fig. 6 Relative Current Transfer Ratio vs. Ambient Temperature



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Fig. 7 Response Time vs. Load Resistance



Test Circuit for Response Time

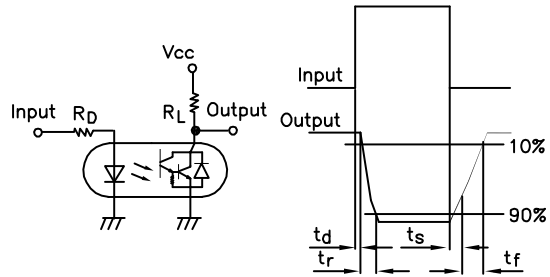


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

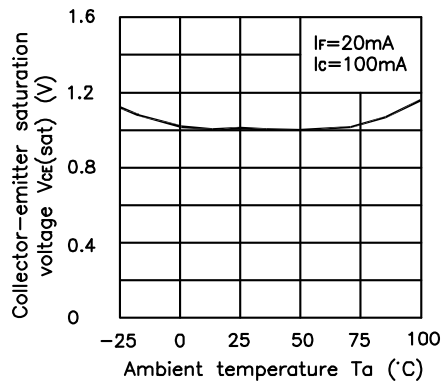
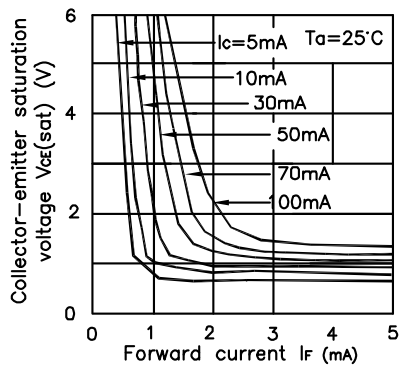


Fig. 9 Collector-emitter Saturation Voltage vs. Forward Current



* NOTES ON HANDLING

1. Recommended soldering conditions (Dip soldering)

(1) Dip soldering

| | |
|-------------|--|
| Temperature | 260°C or below (molten solder temperature) |
| Time | Less than 10 seconds. |
| Cycle | One cycle allowed to be dipped in solder including plastic mold portion. |
| Flux | Rosin flux containing small amount of chlorine (The flux with a maximum chlorine content of 0.2 Wt % is recommended.) |

(2) Cautions

Fluxes

Avoid removing the residual flux with freon-based and chlorine-based cleaning solvent.

2. Cautions regarding noise

Be aware that power is suddenly into the component any surge current may cause damage happen, even if the voltage is within the absolute maximum ratings.

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CAUTION

Within this device there exists GaAs (Gallium Arsenide) material which is a harmful substance if ingested. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them.

RESTRICTIONS ON PRODUCT USE

- The information in this document is subject to change without notice. Before using this document, please confirm that this is the latest version. Not all devices / types available in every country.
- We mention about our product quality stability, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing KINGBRIGHT products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a KINGBRIGHT product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that KINGBRIGHT products are used within specified operating ranges as set forth in the most recent products specifications.

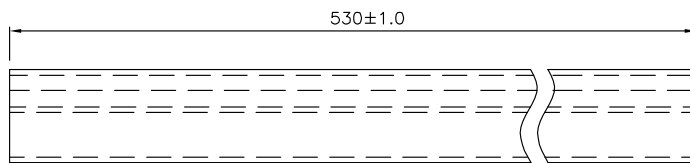
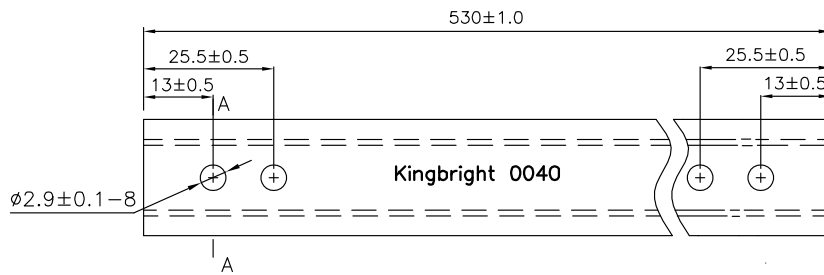
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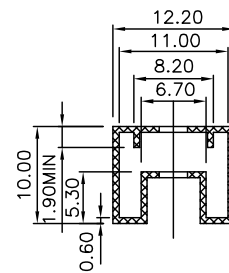
Dimension of Tube

TOLERANCE : $\pm 0.4[\pm 0.012]$ UNLESS OTHERWISE NOTED.

Unit:mm



A-A Side view



Dimension of Carton

