

RT8H102C

UVLO built-in IGBT gate driver

DESCRIPTION

RT8H102C is combined transistor composed by NPN transistors, PNP transistors and resistors.

Miniaturization of the set, and significant reductions of parts and person-hours will be possible by using this transistor.

RT8H102C has a built-in UVLO circuit, and starts operation when the power supply voltage becomes about 14.2V or more, and stops operation when it becomes 12.4V or less. It has a circuit configuration as an IGBT driver, and when applying from Low to High to the GATEIN terminal, when the voltage becomes about 2.90V or more, the B terminal outputs a Low signal.

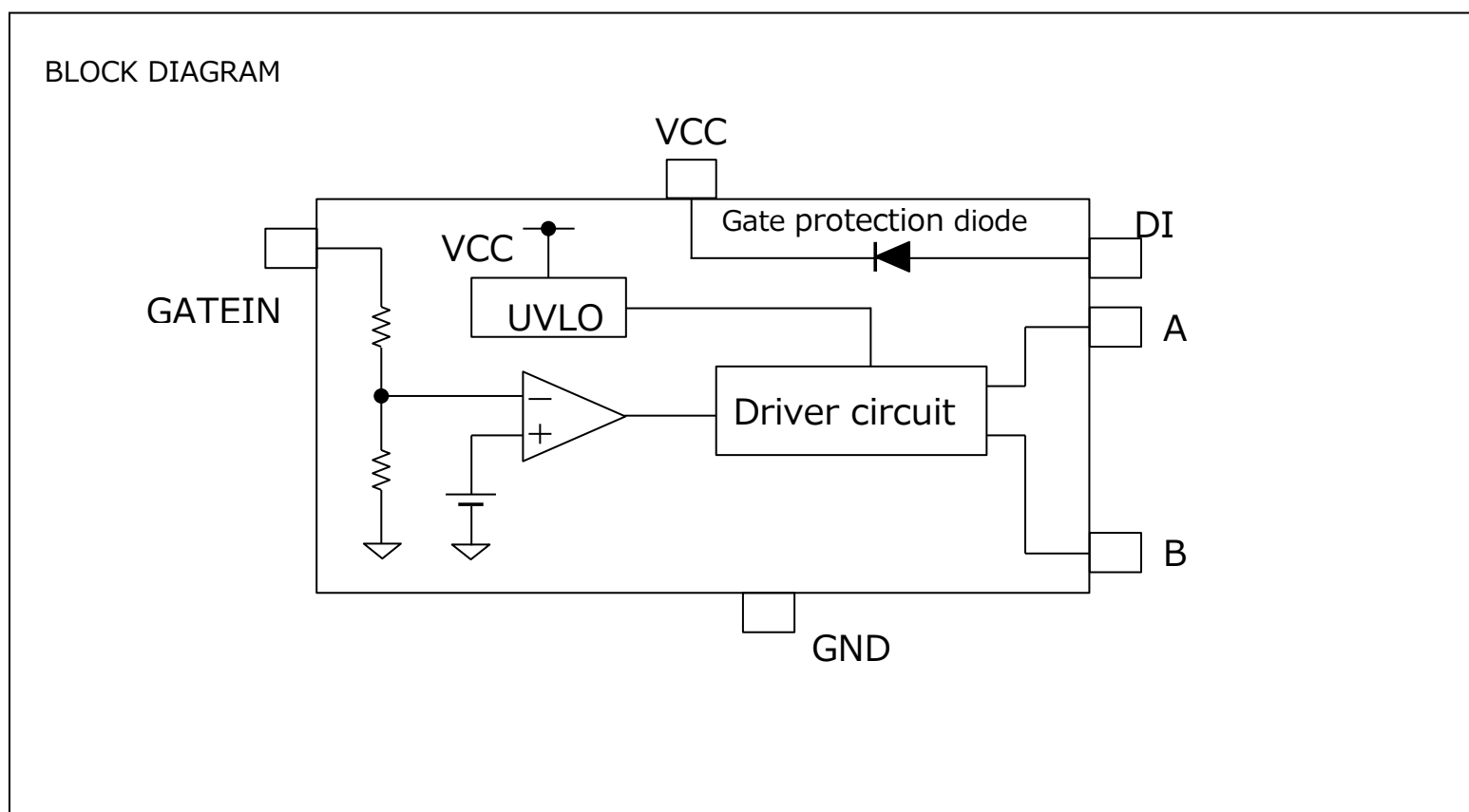
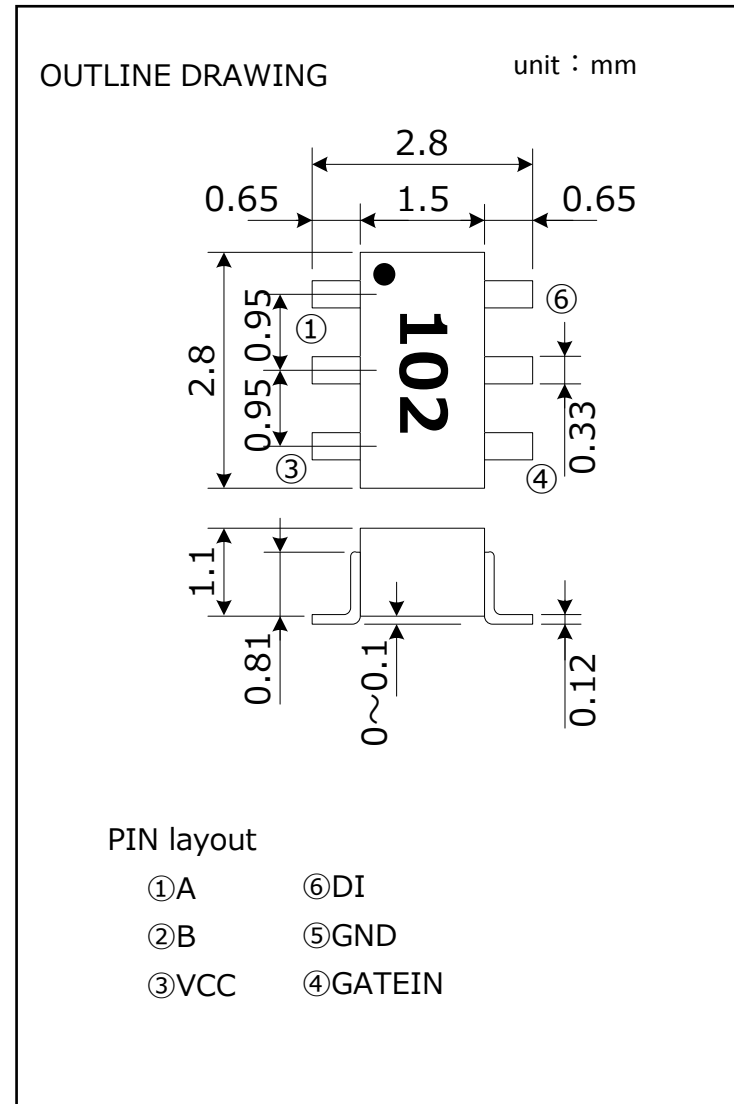
When High to Low is applied to the GATEIN terminal, when the voltage becomes about 2.59V or less, B terminal outputs a High signal.

FEATURES

- Miniaturization of a set
- Built-in UVLO(Ideal for 20V systems)
- Since the output is constant current, the IGBT can be operated safely

APPLICATION

- IGBT gate driver



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ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless otherwise noted.)

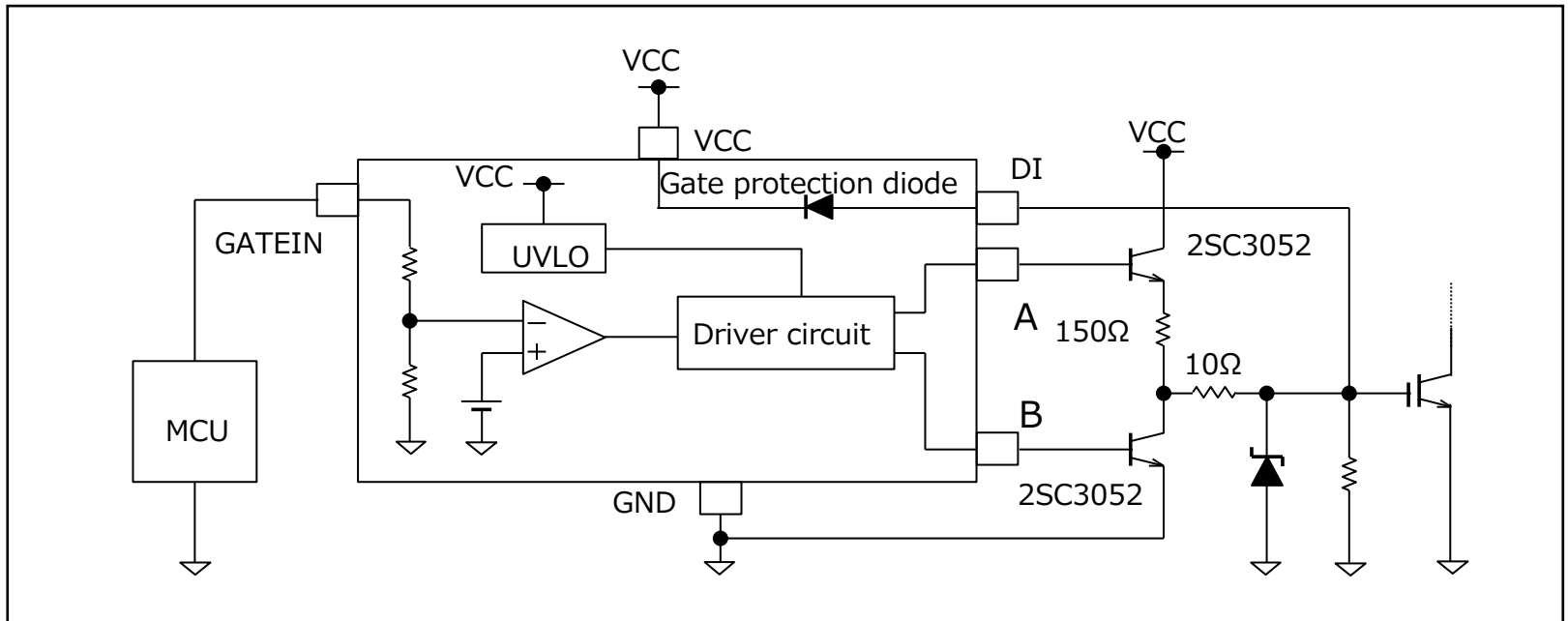
| Symbol | Parameter | Condition | Ratings | Unit |
|--------|-----------------------------------|-----------|---------|-------|
| Vcc | Power supply voltage | | 30 | V |
| VGIN | IN terminal input applied voltage | | 10 | V |
| Pd | Internal power dissipation | | 200 | mW |
| Kθ | Thermal derating | Ta≥25°C | 1.6 | mW/°C |
| Tj | Junction temperature | | 150 | °C |
| Tstg | Storage temperature | keep dry | -40~150 | °C |
| Topr | Operating temperature | keep dry | -20~85 | °C |

ELECTRICAL CHARACTERISTIC (Ta=25°C,VCC=20V unless otherwise noted.)

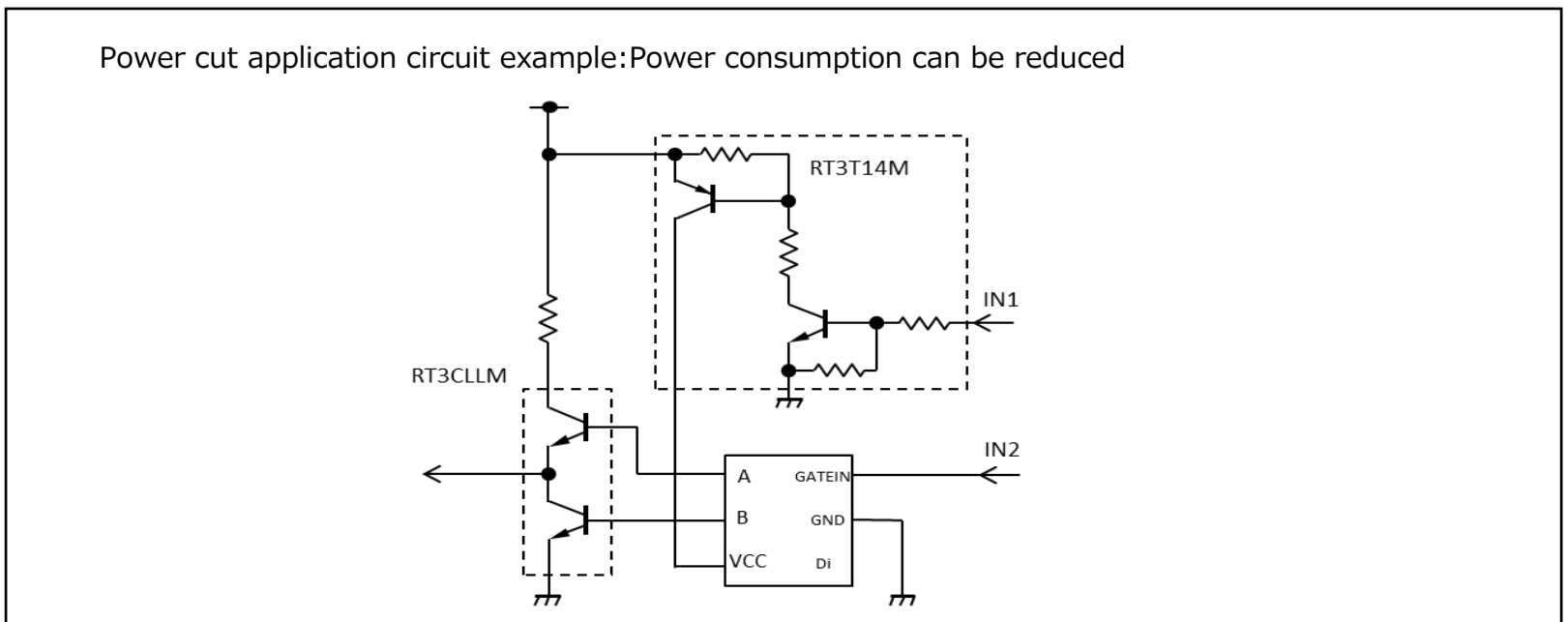
| Symbol | Parameter | Test condition | Limits | | | Unit |
|--------|--------------------------------|---------------------------|--------|------|------|------|
| | | | Min. | Typ. | Max. | |
| VCC | Operating supply voltage range | | 18 | 20 | 26 | V |
| VCTH1 | Operation start voltage | GATEIN=5V, VBM:High→Low | 13.5 | 14.2 | 14.9 | V |
| VCTH2 | Operation stop voltage | GATEIN=5V, VBM:Low→High | 11.8 | 12.4 | 13.0 | V |
| ICC1 | Circuit current1 | GATEIN=0V | 870 | 1240 | 1610 | uA |
| ICC2 | Circuit current2 | GATEIN=5V | 870 | 1240 | 1610 | uA |
| VOA2 | Output voltage A2 | GATEIN=5V | 16.2 | 18.6 | 20.0 | V |
| VOB2 | Output voltage B2 | GATEIN=5V | - | 0.00 | 0.28 | V |
| Vth1 | Threshold voltage 1 (Low→High) | GATEIN : 0→5V, VMB : Low | 2.74 | 2.90 | 3.06 | V |
| Vth2 | Threshold voltage 2 (High→Low) | GATEIN : 5V→0, VMB : High | 2.44 | 2.59 | 2.73 | V |
| IOUTA1 | Output A outflow current 1 | GATEIN=0V, A=B=0.7V IMA | - | 0 | 1 | uA |
| IOUTA2 | Output A outflow current 2 | GATEIN=5V, A=18V IMA | -600 | -460 | -320 | uA |
| IINB | Output B inflow current | GATEIN=5V, B=0.3V IMB | 640 | 910 | 1180 | uA |
| IOUTB | Output B outflow current | GATEIN=0V, B=0.7V IMB | -1040 | -800 | -560 | uA |

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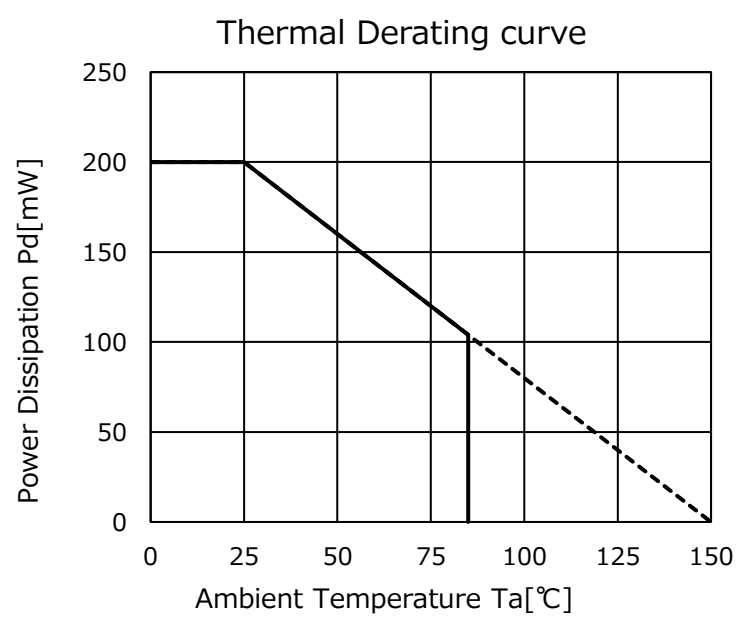
APPLICATION CIRCUIT



Power cut application circuit example: Power consumption can be reduced



«Typical Characteristic»



Keep safety first in your circuit designs!

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