

Preliminary

* This is tentative specification

UVLO built-in IGBT gate driver with Power cut circuit

DESCRIPTION

RT8H112C 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.

RT8H112C has a built-in UVLO circuit, and starts operation when the power supply voltage becomes about 16V or more, and stops operation when it becomes 14V 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 2.7V or more, the B terminal outputs a Low signal.

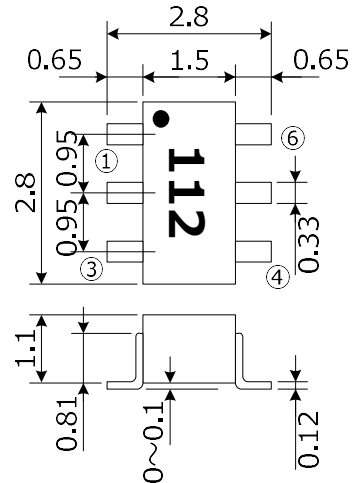
When High to Low is applied to the GATEIN terminal, when the voltage becomes about 2.5V or less, B terminal outputs a High signal.

FEATURES

- Miniaturization of a set
- Built-in UVLO(Ideal for 20V systems)
- Since the output is constant current, the IGBT can be operated safely
- Built-in power cut circuit
($IC_{Coff} = 0$ during power cut)

OUTLINE DRAWING

unit : mm



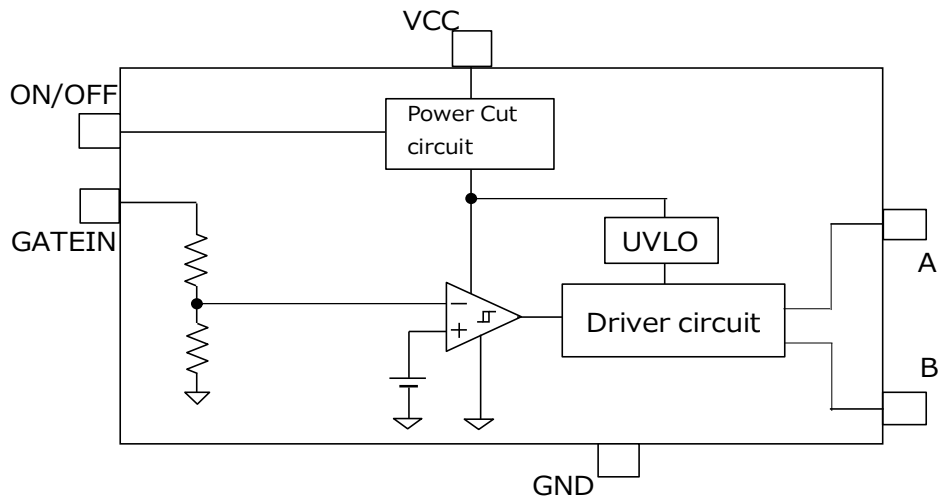
PIN layout

- | | |
|------|---------|
| ①A | ⑥ON/OFF |
| ②B | ⑤GND |
| ③VCC | ④GATEIN |

APPLICATION

- IGBT gate driver

BLOCK DIAGRAM



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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	GATE IN terminal input applied voltage		-0.3~10	V
VON/OFF	ON/OFF terminal input applied voltage		-0.3~10	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,VON/OFF=5V unless otherwise noted.)

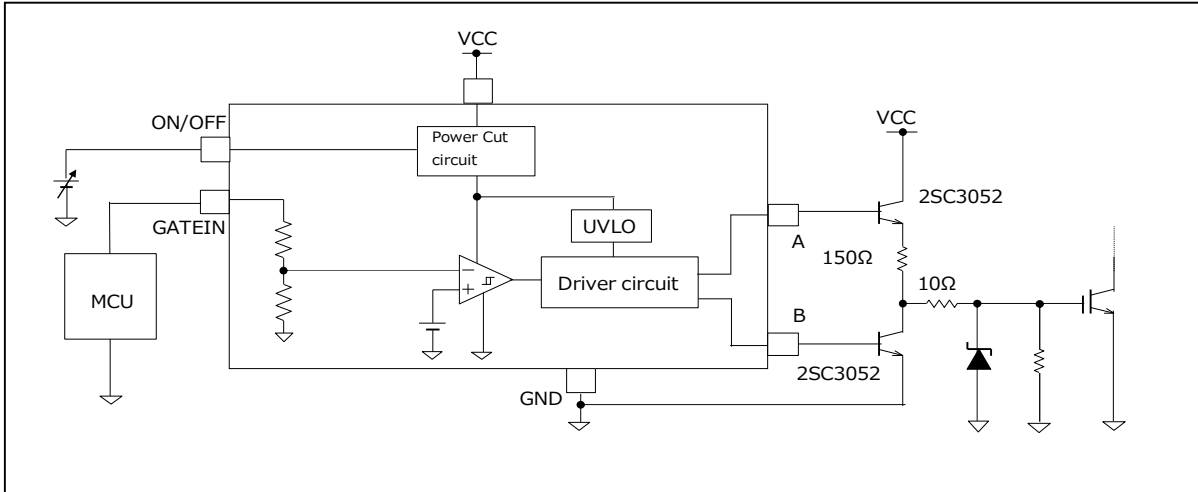
Symbol	Parameter	Test condition	Limits			Unit
			Min.	Typ.	Max.	
VCC	Operating supply voltage range		18	20	26	V
VCTH1	Operation start voltage	GATEIN=5V, VMB:High→Low	15.0	16.1	17.2	V
VCTH2	Operation stop voltage	GATEIN=5V, VMB:Low→High	13.0	14.0	15.0	V
ICCOFF	Circuit current (During power cut)	VON/OFF = 0V	-	0	1	uA
ICC1	Circuit current1	GATEIN=0V	0.91	1.30	1.69	mA
ICC2	Circuit current2	GATEIN=5V	0.92	1.31	1.70	mA
VOA2	Output voltage A2	GATEIN=5V Pull-down resistor(to A terminal):1MΩ	16.2	18.6	20.0	V
VOB2	Output voltage B2	GATEIN=5V Pull-down resistor(to A terminal):1MΩ	-	0.07	0.28	V
Vth0	Threshold voltage 1 (Low→High)	GATEIN=0V, VMB:Low→High	0.50	0.85	1.20	V
Vth1	Threshold voltage 1 (Low→High)	GATEIN : 0→5V, VMB : High→Low	2.62	2.78	2.93	V
Vth2	Threshold voltage 2 (High→Low)	GATEIN : 5V→0, VMB : Low→High	2.34	2.48	2.62	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	-1.50	-1.15	-0.80	mA
IINB	Output B inflow current	GATEIN=5V, B=0.3V IMB	870	1250	1620	uA
IOUTB	Output B outflow current	GATEIN=0V, B=0.7V IMB	-2.25	-1.73	-1.21	mA

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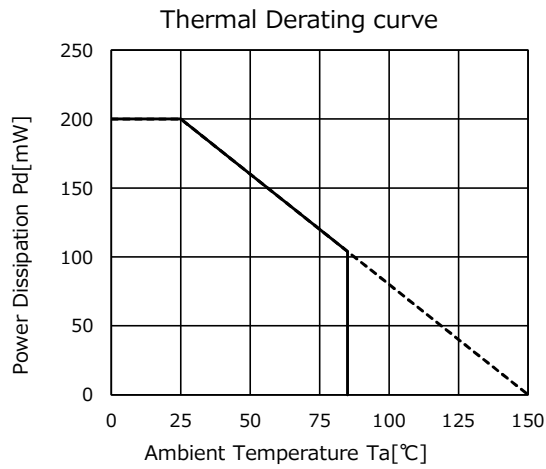
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APPLICATION CIRCUIT



«Typical Characteristic»



Keep safety first in your circuit designs!

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