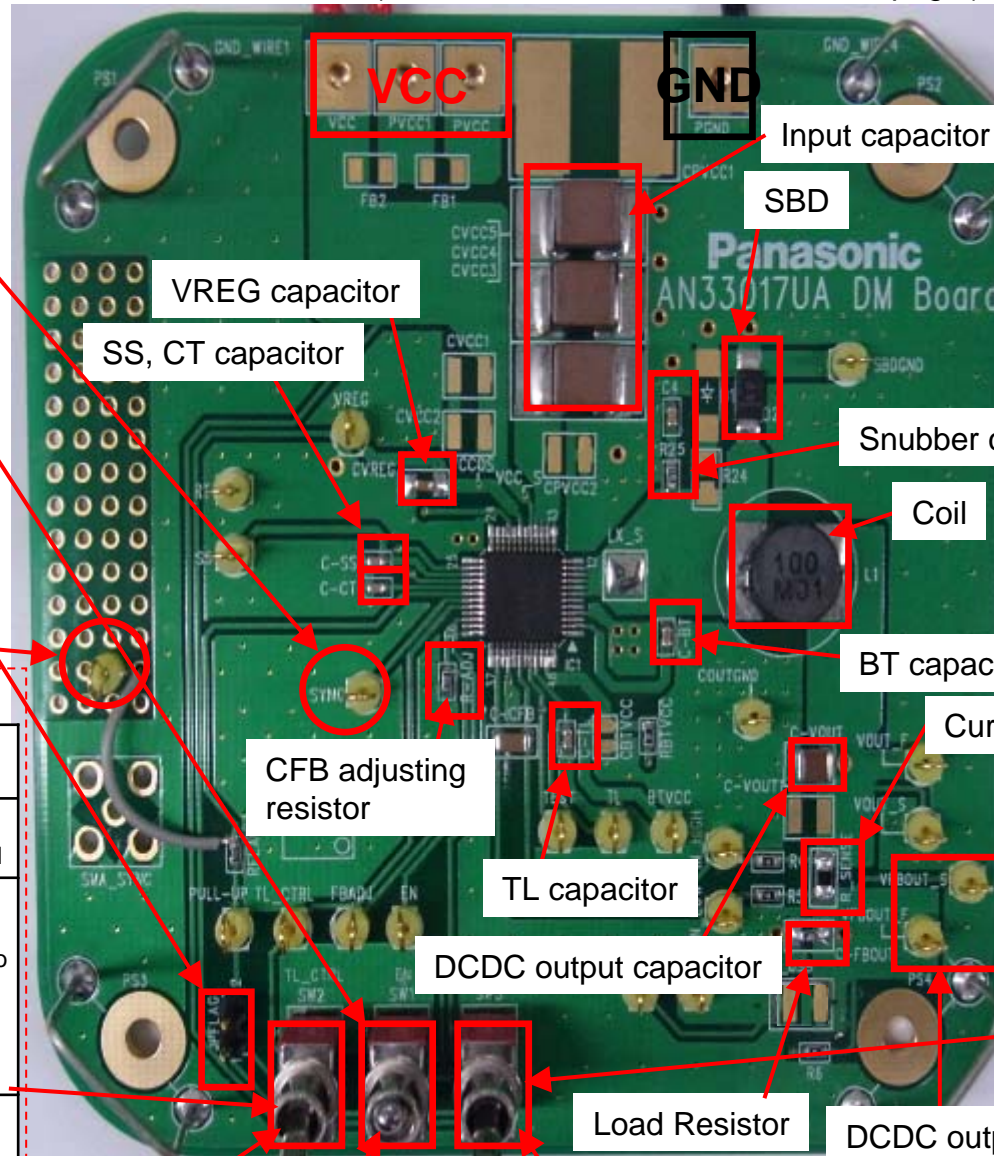

AN33017UA

Evaluation Board Manual

Panasonic Corporation
Automotive & Industrial Systems Company
Semiconductor Business Division

AN33017UA Evaluation board (front side)

This is a two layer circuit board. The front side is shown below. (The back side is shown on the next page.)



SYNC input terminal
(external clock input)

SW1: Enable control switch
Upper side (high): DCDC ON
Lower side (low) : DCDC OFF

JPFLAG
If you connect this jumper switch,
the FLAG pin will be connected to
VREG(4.9V) via a 200kΩ-register.

FLAG
This pin can check FLAG output.

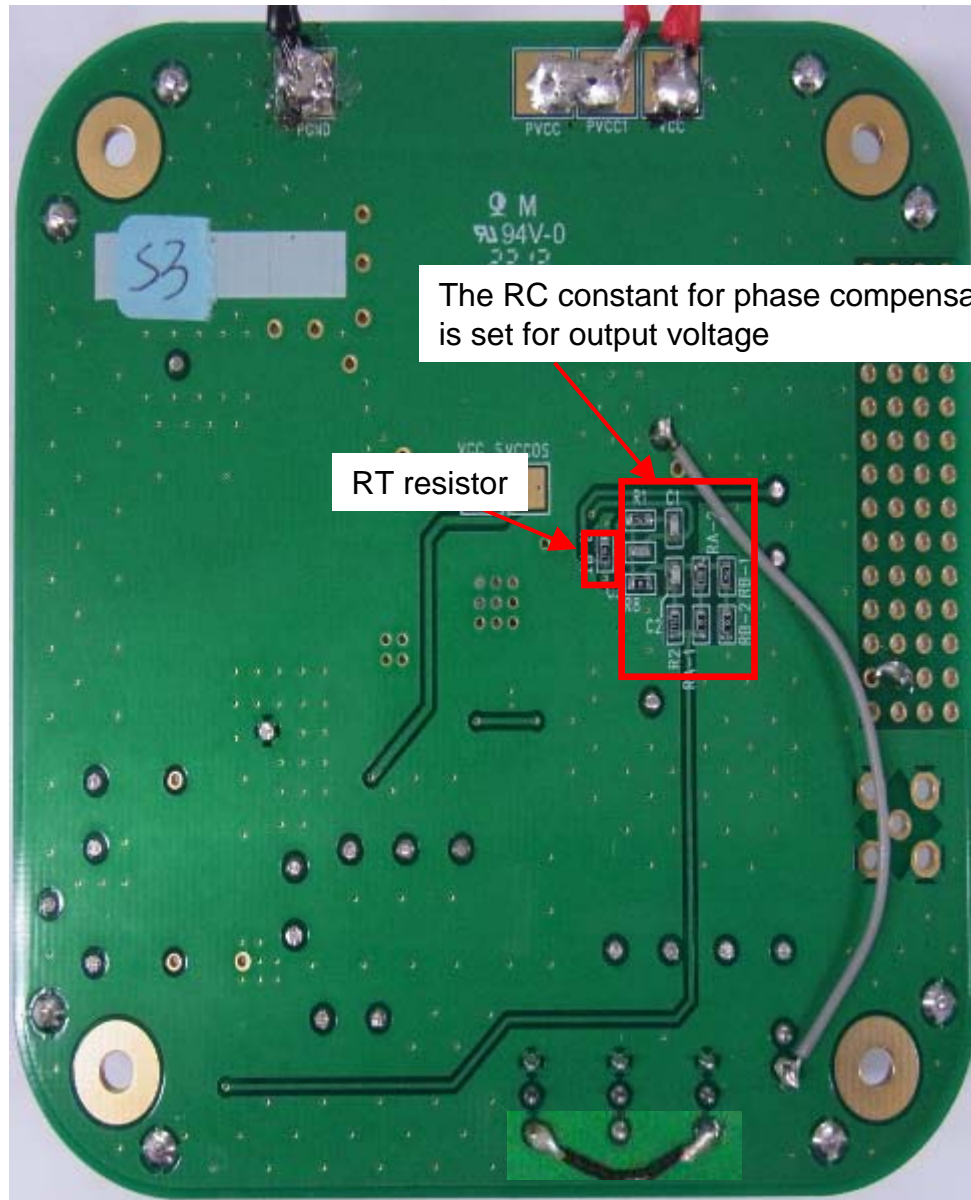
SW2: TL_CTRL control switch

| TL_CTRL Pin connection | The condition that IC keep SCP or OCP over setting time by TL | | |
|---|---|-------------------|--|
| | FLAG Pin | DCDC Operation | DCDC Return method |
| (Upper side: High) Connect to VREG | Pull- down | Continue | After release abnormal state, IC is continue to operate.(Howe ver, FLAG pin keep Pull-down state) |
| (Lower side: Low) Connect to GND | Pull- down | Stop | IC is reset by EN pin. |

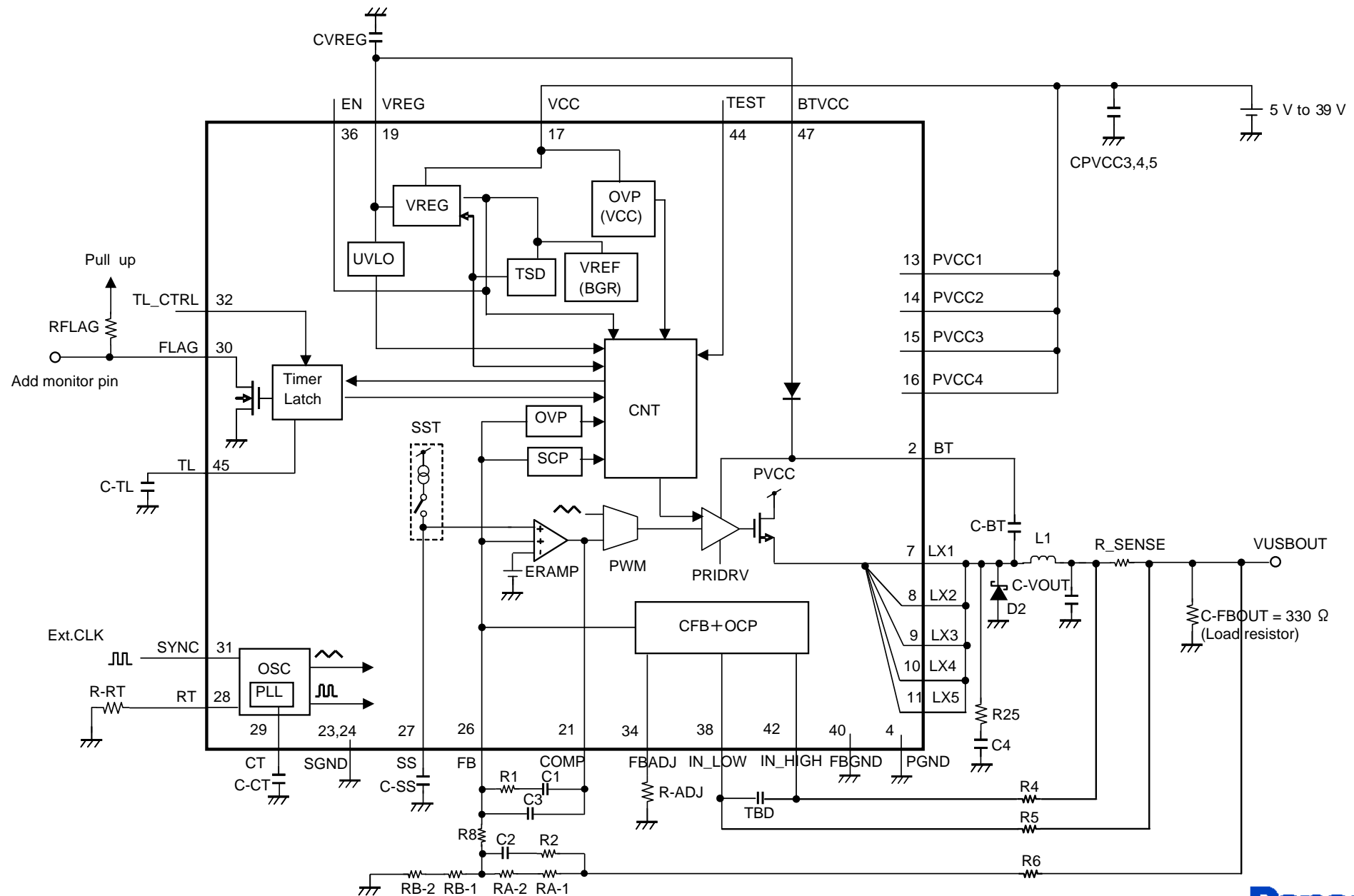
SW3: OCPDET switch
If the difference voltage between
R_SENSE is exceed below value,
FLAG output change H→L.
Upper side (high) :75mV
(1.5A@50mΩ)
Lower side (low) :125mV
(2.5A@50mΩ)

AN33017UA Evaluation board (back side)

This is a two layer circuit board. The back side is shown below. (The front side is shown on the previous page.)



AN33017UA Evaluation board (schematic)



AN33017UA Evaluation board (components)

The BOM of this board is shown below.

Switching frequency set 490kHz (R_RT=130kΩ), Over current set 2.5A (TEST pin = Low).

Table 1 : component on the evaluation board (reference)

| Board Component Name | Part Name | Size | Value | Maker | Description |
|----------------------|--------------------|-------------------|--------|-------------|----------------------------------|
| C-BT,C-CT,C-SS,C-TL | GCM188R11C104KA01J | JIS1608_[EIA0603] | 0.1uF | Murata | Setting Capacitor |
| C1 | GCM1882C1H222JA01J | JIS1608_[EIA0603] | 2.2nF | Murata | Compensation Capacitor |
| C2 | GCM1882C1H471JA01J | JIS1608_[EIA0603] | 470pF | Murata | Compensation Capacitor |
| C3 | GCM1882C1H270JA01J | JIS1608_[EIA0603] | 27pF | Murata | Compensation Capacitor |
| C4 | GRM188B11H472KA01 | JIS1608_[EIA0603] | 4700pF | Murata | Snubber Capacitor |
| CVREG | GCM188R71C105KA49J | JIS1608_[EIA0603] | 1uF | Murata | VREG Capacitor |
| CPVCC3,4,5 | CKG57NX7R1H226MT | JIS5750_[EIA2220] | 22uF | TDK | Input Capacitor |
| C-VOUT | TMK325C7226MM-T | JIS3225_[EIA1210] | 22uF | TAIYO,YUDEN | Output Capacitor |
| L1 | CDRH8D43-100NC | 8.3(L) x 8.3(W) | 10uH | SUMIDA | Inductor |
| IC1 | AN33017UA | 9.0(L) x 9.0(W) | - | Panasonic | 1ch DCDC Converter |
| D2 | DB24602 | 3.8(L) x 2.4(W) | - | Panasonic | Schottky Diode |
| R1 | ERA3AEB752V | JIS1608_[EIA0603] | R=7.5K | Panasonic | Compensation & Feedback Resistor |
| R2 | ERA3AEB152V | JIS1608_[EIA0603] | R=1.5K | Panasonic | Compensation & Feedback Resistor |
| R25 | ERJ8GEYJ151V | JIS1608_[EIA0603] | R=150 | Panasonic | Snubber Resistor |
| RA-2 | ERA3AEB303V | JIS1608_[EIA0603] | R=30K | Panasonic | Compensation & Feedback Resistor |
| RA-1 | ERJ3GEY0R00V | JIS1608_[EIA0603] | R=0 | Panasonic | Compensation & Feedback Resistor |
| RB-1 | ERA3AEB752V | JIS1608_[EIA0603] | R=7.5K | Panasonic | Compensation & Feedback Resistor |
| RB-2 | ERJ3GEY0R00V | JIS1608_[EIA0603] | R=0 | Panasonic | Compensation & Feedback Resistor |
| RFLAG | ERA3AEB204V | JIS1608_[EIA0603] | R=200K | Panasonic | Pull-up Resistor |
| R-RT | ERA3AEB134V | JIS1608_[EIA0603] | R=130K | Panasonic | OSC Setting Resistor |
| R-ADJ | ERA3AEB123V | JIS1608_[EIA0603] | R=12K | Panasonic | CFB Adjust Resistor |
| R4, R5, R6, R8 | ERJ3GEY0R00V | JIS1608_[EIA0603] | R=0 | Panasonic | 0 ohm Resistor (for evaluation) |
| C-FBOUT | ERJ3GEYJ331 | JIS1608_[EIA0603] | R=330 | Panasonic | Load Resistor |
| R_SENSE | ERJ8BWFR050V | JIS3216_[EIA1206] | R=50m | Panasonic | OCP Sense Resistor |

Note: The specifications of the BOM are reference values. Other components might be mounted depending on target values of output voltage, frequency, etc.

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