



















# Debug Control and Status Register

dcscr **0x7b0**

|          |  |         |  |        |          |           |    |          |    |       |  |   |        |        |    |      |          |      |          |     |         |    |   |    |   |  |    |  |    |  |
|----------|--|---------|--|--------|----------|-----------|----|----------|----|-------|--|---|--------|--------|----|------|----------|------|----------|-----|---------|----|---|----|---|--|----|--|----|--|
| 31       |  |         |  | 28     |          | 27        | 26 |          | 24 |       |  |   | 23     |        | 20 |      |          | 19   |          | 18  |         | 17 |   | 16 |   |  | 15 |  | 14 |  |
| debugver |  |         |  | 0      | extcause |           |    |          | 0  |       |  |   | cetrig |        |    | 0    | ebreakvs |      | ebreakvu |     | ebreakm |    |   | 0  |   |  |    |  |    |  |
| 4        |  |         |  | 1      | 3        |           |    |          | 4  |       |  |   | 1      |        |    | 1    | 1        |      | 1        |     |         | 1  |   | 1  |   |  |    |  |    |  |
| 13       |  |         |  | 12     |          | 11        |    | 10       |    | 9     |  | 8 | 6      |        |    | 5    | 4        |      | 3        |     | 2       |    | 1 |    | 0 |  |    |  |    |  |
| ebreaks  |  | ebreaku |  | stepie |          | stopcount |    | stoptime |    | cause |  |   | v      | mprven |    | nmip |          | step |          | prv |         |    |   |    |   |  |    |  |    |  |
| 1        |  | 1       |  | 1      |          | 1         |    | 1        |    | 3     |  |   | 1      | 1      |    | 1    |          | 1    |          | 2   |         |    |   |    |   |  |    |  |    |  |

- step: set this bit to single-step
- cause: 1 is **ebreak**, 3 is debug request, 4 is step

# RISC-V Control and Status Registers

dc sr: 0x7b0

| Offset | Name          | Info   |
|--------|---------------|--|
| 0x300  | MSTATUS       | Machine status register  |
| 0x301  | MISA          | Summary of ISA extension support   |
| 0x302  | MEDELEG       | Machine exception delegation register. Not implemented, as no S-mode support.                  |
| 0x303  | MIDELEG       | Machine interrupt delegation register. Not implemented, as no S-mode support.                  |
| 0x304  | MIE           | Machine interrupt enable register  |
| 0x305  | MTVEC         | Machine trap handler base address.   |
| 0x306  | MCOUNTEREN    | Counter enable. Control access to counters from U-mode. Not to be confused with mcountinhibit. |
| 0x30a  | MENVCFG       | Machine environment configuration register, low half   |
| 0x310  | MSTATUSH      | High half of mstatus, hardwired to 0.  |
| 0x31a  | MENVCFGH      | Machine environment configuration register, high half  |
| 0x320  | MCOUNTINHIBIT | Count inhibit register for mcycle/minstret   |
| 0x323  | MHPMEVENT3    | Extended performance event selector, hardwired to 0.   |

From: RP2350 Reference Manual