

Peak Detection with the THAT4301

The circuit within this application note features THAT4301 to provide the essential function of an RMS level detector (RMS). Since writing this note, THAT has introduced several Analog Engines®, which combine a VCA and an RMS with optional opamps in one part.. With minor modifications, these newer ICs are generally applicable to the design shown herein, and may offer advantages in performance, cost, power consumption, etc., depending on the design requirements. We encourage readers to consider the following alternatives in addition to the 4301:

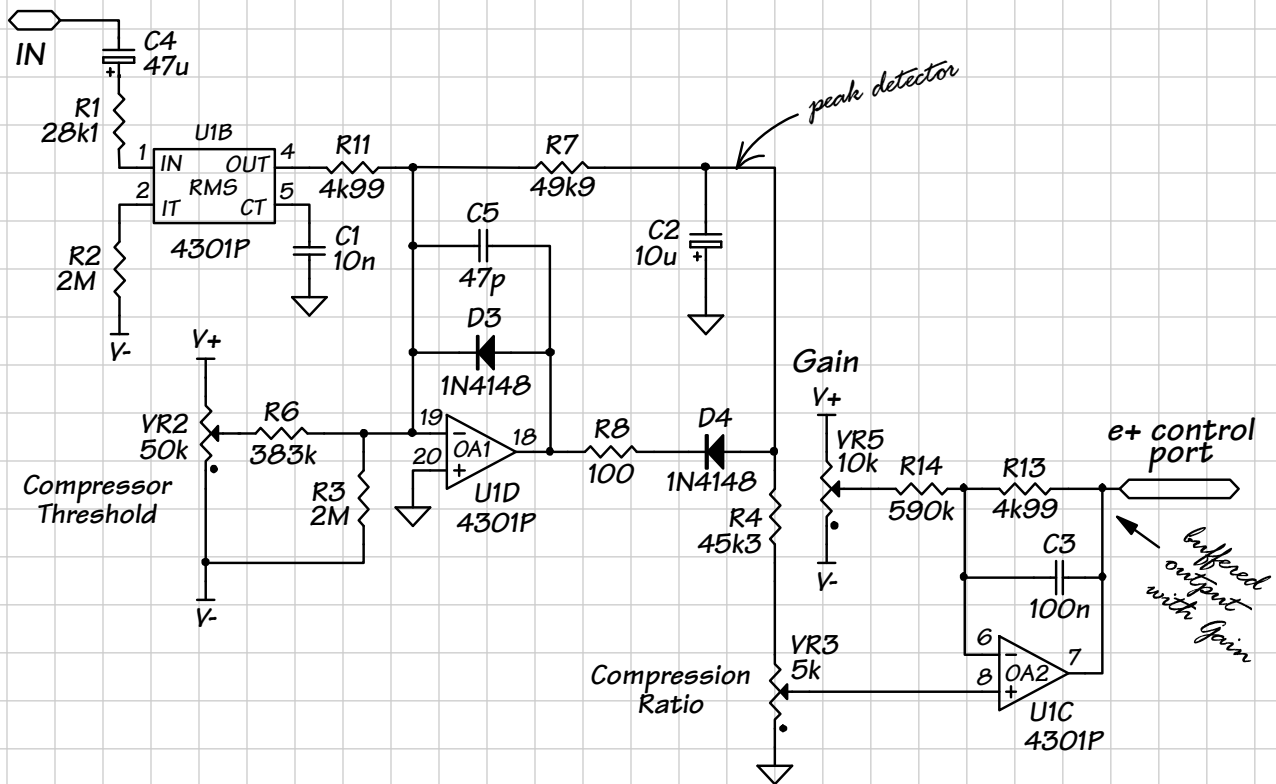
- Low supply voltage and power consumption: 4320
- Low cost, supply voltage, and power consumption: 4315
- Low cost and power consumption: 4305S
- Standalone RMS detector: 2252

For more information about making these substitutions, please contact THAT Corporation's technical support group at apps_support@thatcorp.com.

THAT Corporation

45 Sumner St, Milford, MA 01757-1656 USA; www.thatcorp.com; info@thatcorp.com

The following schematic shows the level detector of a THAT4301 configured as a peak detector. The detector, which normally responds in true rms fashion, is re-configured for peak operation by making C1, the timing capacitor, quite small, thereby disabling the logarithmic filtering. The threshold amplifier, OA1, also acts as a precision rectifier, with the peak value being stored on C2. The decay rate is determined by C2 and the parallel combination of R7 and R4 in series with VR3. VR3 is used to set the compression ratio. The threshold is set with VR2, and R3's function is to skew the adjustment range of VR3. VR5 sets the circuit gain.



THAT4301 Detector

One may eventually want to replace the potentiometers with fixed resistors when circuit requirements are determined in more detail.