

## Op - Amp. & Comparators

### Features:

- Two independent, high gain, internally frequency compensated op amps
- Wide Supply Voltage Range Single & Split Supply
- Very Low Supply Current Drain typ 0.4 mA independent of supply voltage
- Low Input Biasing current and offset current
- High precision comparators
- Allows sensing near ground and Output voltage near to GND
- Compatible with all forms of logic
- Power Drain suitable for battery operation

### Application:

Battery Charger, Switching Power Supply, Consumer Product, Industrial Application, PC & PC Peripheral, Telecommunication

| Part No. | V <sub>CC</sub> (V) | Supply Current | Channels | Slew rate     | Input Offset Voltage | Gain Bandwidth | Package      |
|----------|---------------------|----------------|----------|---------------|----------------------|----------------|--------------|
| GM358    | ± 16                | 2.0mA          | 2        | 0.1V/ $\mu$ S | 9.0mV                | 1MHz           | SOP-8, DIP-8 |
| GM393    | ± 18                | 0.4mA          | 2        | 0.4V/ $\mu$ S | 3mV                  | 1MHz           | SOP-8, DIP-8 |

## Op - Amp. & Voltage References

### Features:

- Space and cost saving for power management and power supply
- Wide Supply Voltage Range typ 3V to 32V
- High Precision 0.4% of Programmable or 2.5V Voltage Reference
- Low Input Offset Voltage typ 0.5mV
- Low Supply Current typ 350 $\mu$ A
- Large output voltage swing

### Application:

Switching Mode Power Supply, Power Management, Data Acquisition, Battery Charger, Linear Regulator

| Part No. | Supply Range (V) | V <sub>REF</sub> (V) | Op-Amps V <sub>io</sub> (max) | I <sub>CC</sub> (Typ.) | Precision (%) | GBP MHz. (Typ) | SR V/ $\mu$ S (Typ) | I <sub>OUT</sub> sink | Current Generator | Package        |
|----------|------------------|----------------------|-------------------------------|------------------------|---------------|----------------|---------------------|-----------------------|-------------------|----------------|
| GMA101A  | 4.5 to 36        | 1.24                 | 5mV                           | 2mA                    | 2 - 1 - 4     | 1              | -                   | 15mA                  | 1.4mA             | SOP-8, DIP-8   |
| GMA102A  | 4.5 to 36        | 2.5                  | 4.5mV<br>Comp: 5mV            | 0.8mA                  | 0.4           | 2.1            | 2                   | -                     | -                 | SOP-16         |
| GMA103A  | 3.0 to 36        | 2.5                  | 3mV/ 5mV                      | 0.7mA                  | 0.02          | 0.9            | 0.4                 | -                     | -                 | SOP-8, DIP-8   |
| GMA104A  | 3.0 to 36        | 2.5                  | 3mV/ 5mV                      | 1.4mA                  | 0.4           | 0.9            | 0.3                 | -                     | -                 | SOP-16, DIP-16 |

\* For more information about new product, please contact our sales office or distributors.