

## 300mA Low Dropout Anti Back Irrigation CMOS Voltage Regulators

### ■ General Description

The PN6308 series are highly precise, low noise, positive voltage LDO regulators manufactured using CMOS processes. The series achieves high ripple rejection and low dropout and consists of a standard voltage source, an error correction, current limiter and a phase compensation circuit plus a driver transistor. Output voltage is selectable in 100mV increments within a range of 1.5V ~ 5.0V. The series is also compatible with low ESR ceramic capacitors which give added output stability. This stability can be maintained even during load fluctuations due to the excellent transient response of the series.

The current limiter's feedback circuit also operates as a short protect for the output current limiter and the output pin. The CE function enables the output to be turned off, resulting in greatly reduced power consumption.

### ■ Features

- Output Voltage Range: 1.0V to 5.0V (selectable in 100mV steps)
- Highly Accurate:  $\pm 2\%$
- Dropout Voltage: 300mV @ 100mA (3.0V type)
- High Ripple Rejection: 70dB (10 kHz)

### ■ Ordering Information

PN6308 ①②③④⑤⑥

- Low Power Consumption: 20 $\mu$ A (TYP.)
- Maximum Output Current : 300mA ( $V_{IN} \geq V_{OUT} + 1V$ )
- Standby Current : less than 0.1 $\mu$ A
- Internal protector: current limiter ,short protector and anti back irrigation

### ■ Applications

- Mobile phones
- Cordless phones
- Cameras, Video cameras
- Portable games
- Portable AV equipment
- Reference voltage
- Battery powered equipment

### ■ Package

- SOT-353/SC70-5
- SOT-23-3
- SOT-23-5L
- USP-6B

| Designator | Symbol | Description  | Designator | Symbol   | Description                      |
|------------|--------|--|------------|----------|----------------------------------|
| ①          |        | CE Pin Logic :   | ⑤          |          | Package Type :                   |
|            | A      | Active 'High' (pull-down resistor built in)                                |            | M        | SOT-23-5L                        |
|            | B      | Active 'High' (no pull-down resistor built in)                             |            | K        | SOT-353/SC70-5                   |
|            | C      | Active 'Low' (pull-up resistor built in)                                   |            | D        | USP-6B                           |
|            | D      | Active 'Low' (no pull-up resistor built in)                                | N          | SOT-23-3 |                                  |
| ② ③        | 18-60  | Output Voltage:<br>e.g. 20 = 2.0V 30 = 3.0V etc.                           | ⑥          |          | Device Orientation :             |
| ④          | 2      | Output Voltage : 100mV increments<br>e.g. ②=3, ③=8, ④=2 $\Rightarrow$ 3.8V |            | R        | Embossed Tape :<br>Standard Feed |
|            | A      | Output Voltage : 50mV increments<br>e.g. ②=3, ③=8, ④=A $\Rightarrow$ 3.85V |            | L        | Embossed Tape :<br>Reverse Feed  |