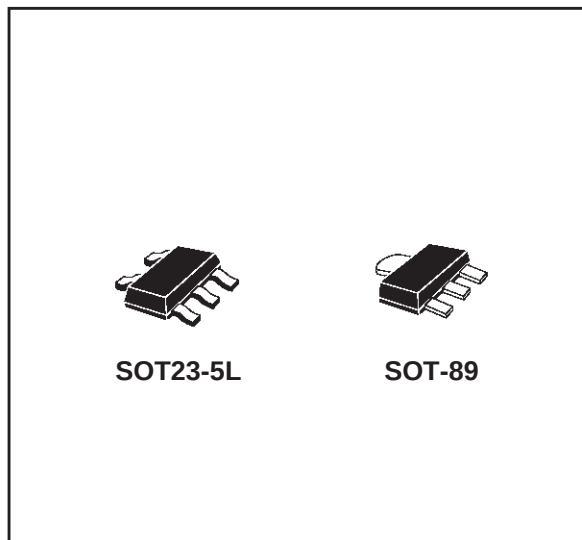


## VERY LOW DROP VOLTAGE REGULATORS WITH INHIBIT

- ULTRA LOW DROPOUT VOLTAGE (0.12V TYP. AT 50mA LOAD)
- VERY LOW QUIESCENT CURRENT (MAX 1 $\mu$ A IN OFF MODE; TYP. 375 $\mu$ A AT 50mA LOAD)
- OUTPUT CURRENT UP TO 50 mA
- LOGIC-CONTROLLED ELECTRONIC SHUTDOWN
- OUTPUT VOLTAGES OF 1.8; 2.5; 2.85; 3.0; 3.2; 3.3; 3.8; 4.0; 4.85; 5.0V
- INTERNAL CURRENT AND THERMAL LIMIT
- AVAILABLE IN  $\pm 0.5\%$  TOLERANCE (AT 25 $^{\circ}$ C, A VERSION)
- SUPPLY VOLTAGE REJECTION: 63dB (TYP)
- ONLY 1 $\mu$ F FOR STABILITY
- TEMPERATURE RANGE: -40 TO 125  $^{\circ}$ C
- SMALLEST PACKAGES SOT23-5L AND SOT-89
- FAST DYNAMIC RESPONSE TO LINE AND LOAD CHANGES



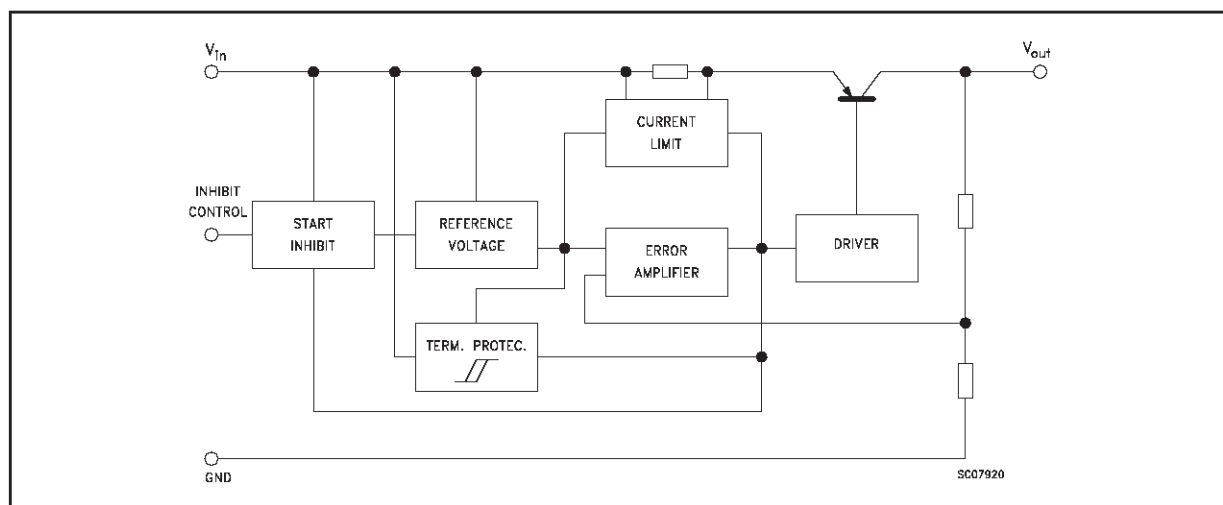
quiescent current make them particularly suitable for low noise, low power applications and in battery powered systems.

Shutdown Logic Control function is available on pin n. 3 (TTL compatible). This means that when the device is used as local regulator, it is possible to put a part of the board in standby, decreasing the total power consumption.

### DESCRIPTION

The LD2980 series are very Low Drop regulators available in SOT23-5L and SOT-89 packages. The ultra low drop-voltage and the very low

### SCHEMATIC DIAGRAM



LD2980

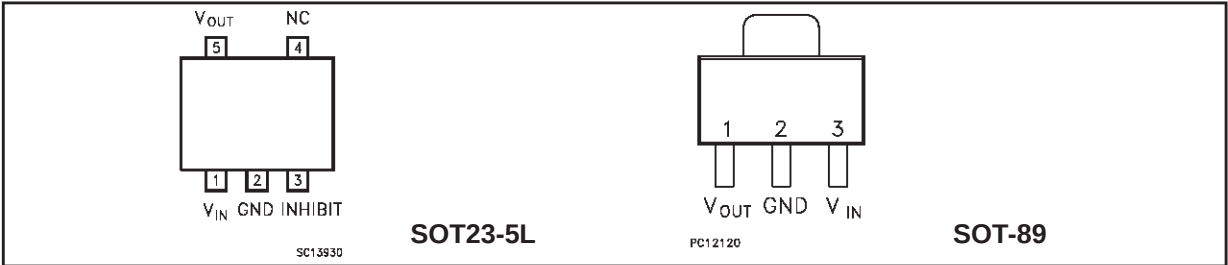
ABSOLUTE MAXIMUM RATING

| Symbol    | Parameter                            | Value              | Unit |
|-----------|--------------------------------------|--------------------|------|
| $V_{IN}$  | DC Input Voltage                     | 16                 | V    |
| $V_{INH}$ | INHBIT Input Voltage                 | 16                 | V    |
| $I_o$     | Output Current                       | Internally limited | mA   |
| $P_{tot}$ | Power Dissipation                    | Internally limited | mW   |
| $T_{stg}$ | Storage Temperature Range            | - 55 to 150        | °C   |
| $T_{op}$  | Operating Junction Temperature Range | - 40 to 125        | °C   |

THERMAL DATA

| Symbol         | Parameter                        | SOT-89 | SOT23-5L | Unit |
|----------------|----------------------------------|--------|----------|------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | 15     | 81       | °C/W |

CONNECTION DIAGRAM (top view)

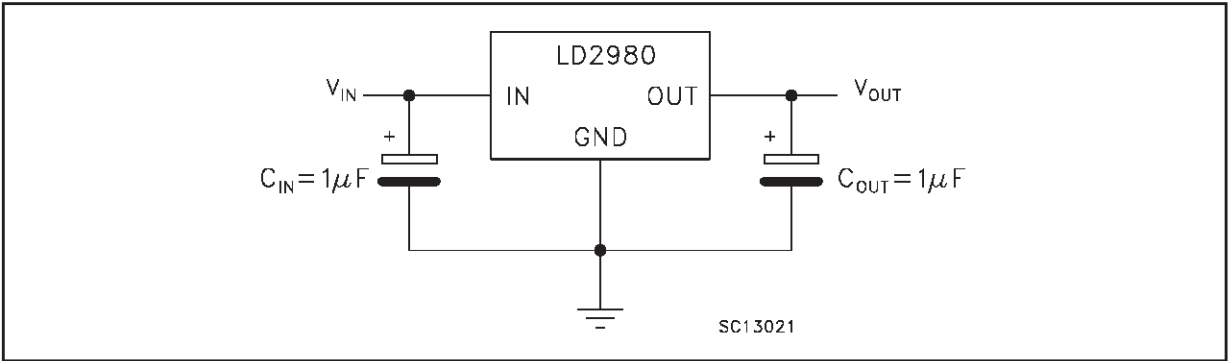


(\*) Inhibit pin is not internally pulled-up then it must not be left floating. Disable the device when connected to GND or to a positive voltage less than 0.18V

ORDERING NUMBERS

| AB VERSION    |               | C VERSION    |              | Output Voltage |
|---------------|---------------|--------------|--------------|----------------|
| SOT23-5L      | SOT-89        | SOT23-5L     | SOT-89       |                |
| LD2980ABM18TR | LD2980ABU18TR | LD2980CM18TR | LD2980CU18TR | 1.8V           |
| LD2980ABM25TR | LD2980ABU25TR | LD2980CM25TR | LD2980CU25TR | 2.5V           |
| LD2980ABM28TR | LD2980ABU28TR | LD2980CM28TR | LD2980CU28TR | 2.85 V         |
| LD2980ABM30TR | LD2980ABU30TR | LD2980CM30TR | LD2980CU30TR | 3.0 V          |
| LD2980ABM32TR | LD2980ABU32TR | LD2980CM32TR | LD2980CU32TR | 3.2 V          |
| LD2980ABM33TR | LD2980ABU33TR | LD2980CM33TR | LD2980CU33TR | 3.3 V          |
| LD2980ABM38TR | LD2980ABU38TR | LD2980CM38TR | LD2980CU38TR | 3.8 V          |
| LD2980ABM40TR | LD2980ABU40TR | LD2980CM40TR | LD2980CU40TR | 4.0V           |
| LD2980ABM48TR | LD2980ABU48TR | LD2980CM48TR | LD2980CU48TR | 4.85 V         |
| LD2980ABM50TR | LD2980ABU50TR | LD2980CM50TR | LD2980CU50TR | 5.0 V          |

APPLICATION CIRCUIT



**ELECTRICAL CHARACTERISTICS FOR LD2980AB** (refer to the test circuits,  $T_J = 25\text{ }^{\circ}\text{C}$ ,  $V_{IN} = V_{O(NOM)} + 1$ ,  $C_O = 1\text{ }\mu\text{F}$ ,  $I_O = 1\text{ mA}$ ,  $V_{inH} = 2\text{ V}$ , unless otherwise specified)

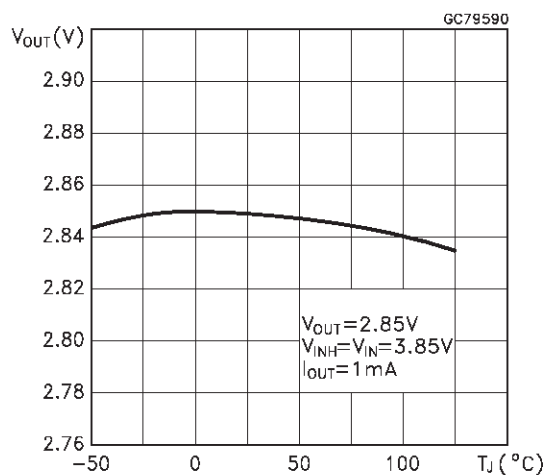
| Symbol       | Parameter                     | Test Conditions                                                                                         | Min.  | Typ.  | Max.           | Unit                           |
|--------------|-------------------------------|---------------------------------------------------------------------------------------------------------|-------|-------|----------------|--------------------------------|
| $V_O$        | Output Voltage                | $V_{IN} = 2.8\text{ V}$                                                                                 | 1.791 | 1.8   | 1.809          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 1.786 |       | 1.814          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 1.755 |       | 1.845          | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 3.5\text{ V}$                                                                                 | 2.487 | 2.5   | 2.513          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 2.481 |       | 2.519          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 2.437 |       | 2.563          | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 3.85\text{ V}$                                                                                | 2.835 | 2.85  | 2.865          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 2.828 |       | 2.872          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 2.778 |       | 2.922          | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 4\text{ V}$                                                                                   | 2.985 | 3     | 3.015          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 2.977 |       | 3.023          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 2.925 |       | 3.075          | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 4.2\text{ V}$                                                                                 | 3.184 | 3.2   | 3.216          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 3.175 |       | 3.225          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 3.12  |       | 3.28           | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 4.3\text{ V}$                                                                                 | 3.283 | 3.3   | 3.317          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 3.275 |       | 3.325          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 3.217 |       | 3.383          | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 4.8\text{ V}$                                                                                 | 3.781 | 3.8   | 3.819          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 3.771 |       | 3.829          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 3.705 |       | 3.895          | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 5.0\text{ V}$                                                                                 | 3.980 | 4     | 4.020          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 3.970 |       | 4.030          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 3.900 |       | 4.100          | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 5.85\text{ V}$                                                                                | 4.825 | 4.85  | 4.875          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 4.813 |       | 4.887          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 4.729 |       | 4.971          | V                              |
| $V_O$        | Output Voltage                | $V_{IN} = 6\text{ V}$                                                                                   | 4.975 | 5     | 5.025          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                                | 4.962 |       | 5.038          | V                              |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                       | 4.875 |       | 5.125          | V                              |
| $I_{out}$    | Output Current Limit          | $R_L = 0$                                                                                               | 150   |       |                | mA                             |
| $\Delta V_O$ | Line Regulation               | $V_{O(NOM)} + 1 < V_{IN} < 16\text{ V}, I_O = 1\text{ mA}$<br>$-40 < T_J < 125\text{ }^{\circ}\text{C}$ |       | 0.003 | 0.014<br>0.032 | %/ $V_{in}$                    |
| $I_d$        | Quiescent Current<br>ON MODE  | $I_O = 0\text{ mA}$                                                                                     |       | 65    | 95             | $\mu\text{A}$                  |
|              |                               | $I_O = 0\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                            |       |       | 125            | $\mu\text{A}$                  |
|              |                               | $I_O = 1\text{ mA}$                                                                                     |       | 80    | 110            | $\mu\text{A}$                  |
|              |                               | $I_O = 1\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                            |       |       | 170            | $\mu\text{A}$                  |
|              |                               | $I_O = 10\text{ mA}$                                                                                    |       | 140   | 220            | $\mu\text{A}$                  |
|              |                               | $I_O = 10\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                           |       |       | 460            | $\mu\text{A}$                  |
| $I_d$        | Quiescent Current<br>OFF MODE | $I_O = 50\text{ mA}$                                                                                    |       | 375   | 600            | $\mu\text{A}$                  |
|              |                               | $I_O = 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                           |       |       | 1200           | $\mu\text{A}$                  |
|              |                               | $V_{INH} < 0.18\text{ V}$<br>$V_{INH} < 0.18\text{ V}, -40 < T_J < 125\text{ }^{\circ}\text{C}$         |       | 0     | 1              | $\mu\text{A}$<br>$\mu\text{A}$ |
| SVR          | Supply Voltage Rejection      | $f = 1\text{ KHz}, C_{out} = 10\text{ }\mu\text{F}$                                                     |       | 63    |                | dB                             |
| $V_d$        | Dropout Voltage               | $I_O = 0\text{ mA}$                                                                                     |       | 1     | 3              | mV                             |
|              |                               | $I_O = 0\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                            |       |       | 5              | mV                             |
|              |                               | $I_O = 1\text{ mA}$                                                                                     |       | 7     | 10             | mV                             |
|              |                               | $I_O = 1\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                            |       |       | 15             | mV                             |
|              |                               | $I_O = 10\text{ mA}$                                                                                    |       | 40    | 60             | mV                             |
|              |                               | $I_O = 10\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                           |       |       | 90             | mV                             |
| $V_d$        | Dropout Voltage               | $I_O = 50\text{ mA}$                                                                                    |       | 120   | 150            | mV                             |
|              |                               | $I_O = 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                           |       |       | 225            | mV                             |
|              |                               | $I_O = 50\text{ mA}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                           |       |       |                |                                |
| $V_{il}$     | Control Input Logic Low       | LOW = Output OFF $-40 < T_J < 125\text{ }^{\circ}\text{C}$                                              |       |       | 0.18           | V                              |
| $V_{ih}$     | Control Input Logic High      | HIGH = Output ON $-40 < T_J < 125\text{ }^{\circ}\text{C}$                                              | 2     |       |                | V                              |
| $I_i$        | Control Input Current         | $V_{INH} = 0\text{ V}$                                                                                  |       | 0     | -1             | $\mu\text{A}$                  |
|              |                               | $V_{INH} = 5\text{ V}, -40 < T_J < 125\text{ }^{\circ}\text{C}$                                         |       | 5     | 15             | $\mu\text{A}$                  |
| eN           | Output Noise Voltage (RMS)    | BW = 300 Hz to 50 KHz, $C_{out} = 10\text{ }\mu\text{F}$                                                |       | 160   |                | $\mu\text{V}$                  |

**ELECTRICAL CHARACTERISTICS FOR LD2980C** (refer to the test circuits,  $T_J = 25^\circ\text{C}$ ,  
 $V_{IN} = V_{O(NOM)} + 1$ ,  $C_O = 1\ \mu\text{F}$ ,  $I_O = 1\text{mA}$ ,  $V_{inH} = 2\text{V}$ , unless otherwise specified)

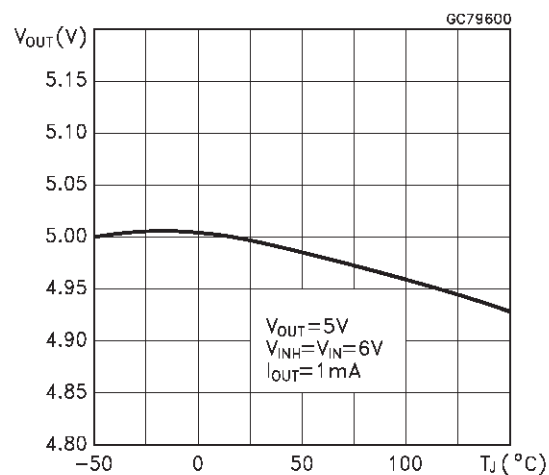
| Symbol       | Parameter                     | Test Conditions                                                                              | Min.  | Typ.  | Max.           | Unit          |
|--------------|-------------------------------|----------------------------------------------------------------------------------------------|-------|-------|----------------|---------------|
| $V_O$        | Output Voltage                | $V_{IN} = 3.85\text{ V}$                                                                     | 1.782 | 1.8   | 1.818          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 1.773 |       | 1.827          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 1.737 |       | 1.863          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 3.85\text{ V}$                                                                     | 2.475 | 2.5   | 2.525          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 2.462 |       | 2.538          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 2.412 |       | 2.588          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 3.85\text{ V}$                                                                     | 2.821 | 2.85  | 2.879          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 2.807 |       | 2.893          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 2.750 |       | 2.950          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 4\text{ V}$                                                                        | 2.970 | 3     | 3.030          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 2.955 |       | 3.045          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 2.895 |       | 3.105          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 4.2\text{ V}$                                                                      | 3.168 | 3.2   | 3.232          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 3.152 |       | 3.248          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 3.088 |       | 3.312          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 4.3\text{ V}$                                                                      | 3.267 | 3.3   | 3.333          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 3.250 |       | 3.350          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 3.184 |       | 3.416          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 4.8\text{ V}$                                                                      | 3.762 | 3.8   | 3.838          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 3.743 |       | 3.857          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 3.667 |       | 3.933          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 5\text{ V}$                                                                        | 3.960 | 4     | 4.040          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 3.940 |       | 4.060          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 3.860 |       | 4.140          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 5.85\text{ V}$                                                                     | 4.800 | 4.85  | 4.900          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 4.777 |       | 4.923          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 4.680 |       | 5.020          | V             |
| $V_O$        | Output Voltage                | $V_{IN} = 6\text{ V}$                                                                        | 4.950 | 5     | 5.050          | V             |
|              |                               | $1 < I_O < 50\text{ mA}$                                                                     | 4.925 |       | 5.075          | V             |
|              |                               | $1 < I_O < 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                      | 4.825 |       | 5.175          | V             |
| $I_{out}$    | Output Current Limit          | $R_L = 0$                                                                                    | 150   |       |                | mA            |
| $\Delta V_O$ | Line Regulation               | $V_{O(NOM)} + 1 < V_{IN} < 16\text{V}, I_O = 1\text{ mA}$<br>$-40 < T_J < 125^\circ\text{C}$ |       | 0.003 | 0.014<br>0.032 | %/ $V_{in}$   |
| $I_d$        | Quiescent Current<br>ON MODE  | $I_O = 0\text{ mA}$                                                                          |       | 65    | 95             | $\mu\text{A}$ |
|              |                               | $I_O = 0\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                           |       |       | 125            | $\mu\text{A}$ |
|              |                               | $I_O = 1\text{ mA}$                                                                          |       | 80    | 110            | $\mu\text{A}$ |
|              |                               | $I_O = 1\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                           |       |       | 170            | $\mu\text{A}$ |
|              |                               | $I_O = 10\text{ mA}$                                                                         |       | 140   | 220            | $\mu\text{A}$ |
|              |                               | $I_O = 10\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                          |       |       | 460            | $\mu\text{A}$ |
| $I_d$        | Quiescent Current<br>OFF MODE | $V_{INH} < 0.18\text{ V}$                                                                    |       | 0     |                | $\mu\text{A}$ |
|              |                               | $V_{INH} < 0.18\text{ V}, -40 < T_J < 125^\circ\text{C}$                                     |       |       | 1              | $\mu\text{A}$ |
|              |                               |                                                                                              |       |       |                |               |
| SVR          | Supply Voltage Rejection      | $f = 1\text{ KHz}, C_{out} = 10\ \mu\text{F}$                                                |       | 63    |                | dB            |
| $V_d$        | Dropout Voltage               | $I_O = 0\text{ mA}$                                                                          |       | 1     | 3              | mV            |
|              |                               | $I_O = 0\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                           |       |       | 5              | mV            |
|              |                               | $I_O = 1\text{ mA}$                                                                          |       | 7     | 10             | mV            |
|              |                               | $I_O = 1\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                           |       |       | 15             | mV            |
|              |                               | $I_O = 10\text{ mA}$                                                                         |       | 40    | 60             | mV            |
|              |                               | $I_O = 10\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                          |       |       | 90             | mV            |
| $V_d$        | Dropout Voltage               | $I_O = 50\text{ mA}$                                                                         |       | 120   | 150            | mV            |
|              |                               | $I_O = 50\text{ mA}, -40 < T_J < 125^\circ\text{C}$                                          |       |       | 225            | mV            |
|              |                               |                                                                                              |       |       |                |               |
| $V_{il}$     | Control Input Logic Low       | LOW = Output OFF $-40 < T_J < 125^\circ\text{C}$                                             |       |       | 0.18           | V             |
| $V_{ih}$     | Control Input Logic High      | HIGH = Output ON $-40 < T_J < 125^\circ\text{C}$                                             | 2     |       |                | V             |
| $I_i$        | Control Input Current         | $V_{INH} = 0\text{ V}$                                                                       |       | 0     |                | $\mu\text{A}$ |
|              |                               | $V_{INH} = 5\text{ V}, -40 < T_J < 125^\circ\text{C}$                                        |       | 5     | -1             | $\mu\text{A}$ |
| eN           | Output Noise Voltage (RMS)    | BW = 300 Hz to 50 KHz, $C_{out} = 10\ \mu\text{F}$                                           |       | 160   |                | $\mu\text{V}$ |

**TYPICAL PERFORMANCE CHARACTERISTICS** (unless otherwise specified  $T_J=25^{\circ}\text{C}$ ,  $C_{IN}=C_{OUT}=1\mu\text{F}$ )

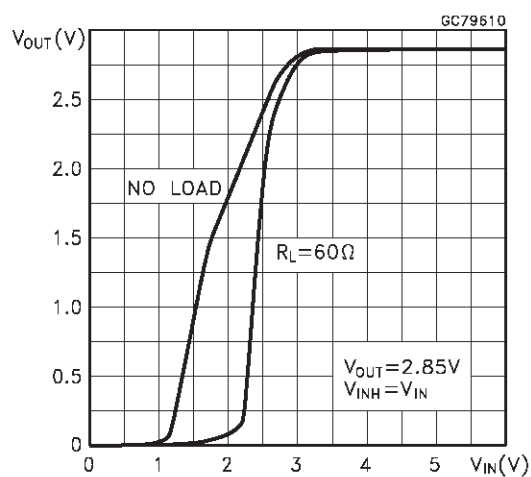
Output Voltage vs Temperature



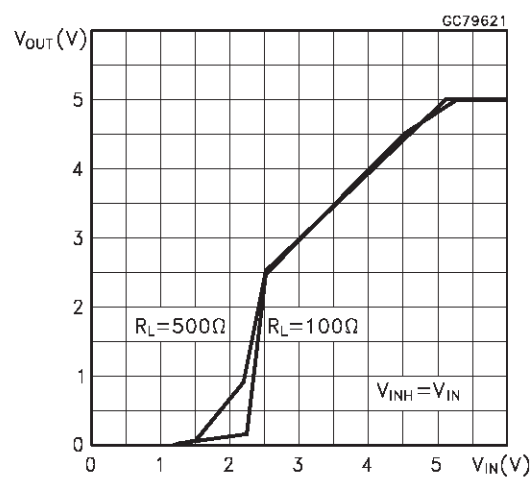
Output Voltage vs Temperature



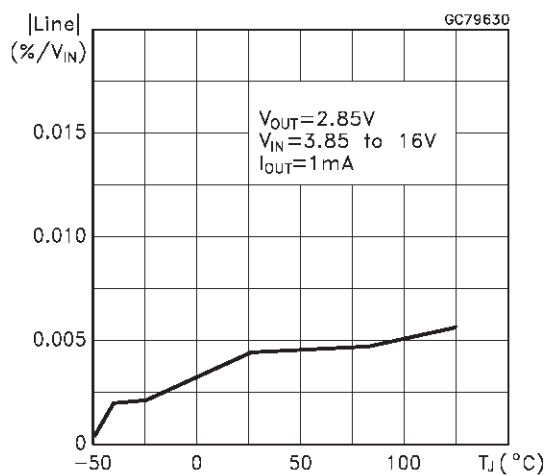
Output Voltage vs Input Voltage



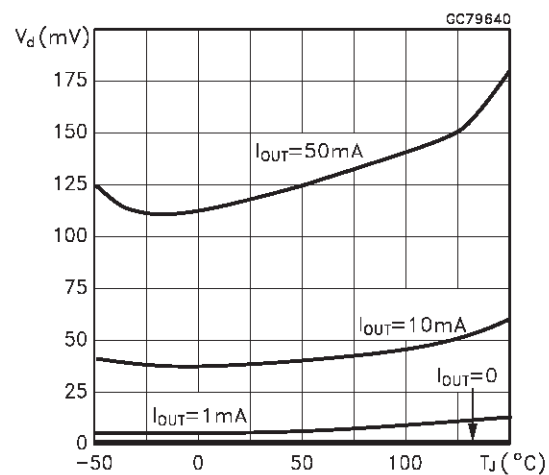
Output Voltage vs Input Voltage



Line Regulation vs Temperature

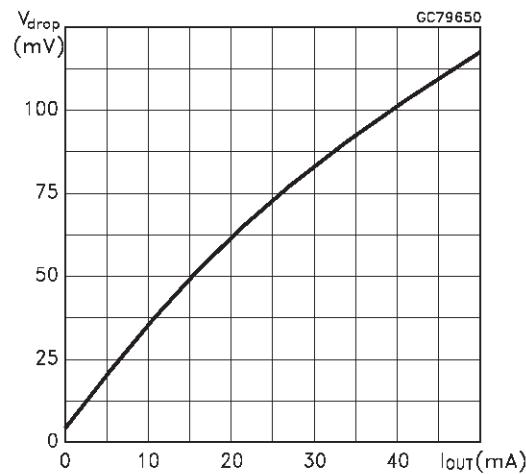


Dropout Voltage vs Temperature

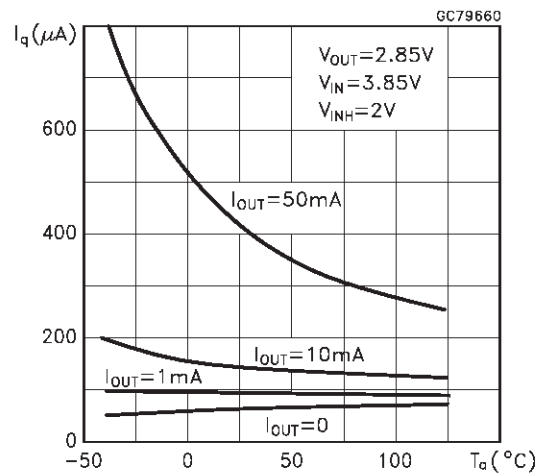


TYPICAL PERFORMANCE CHARACTERISTICS (continued)

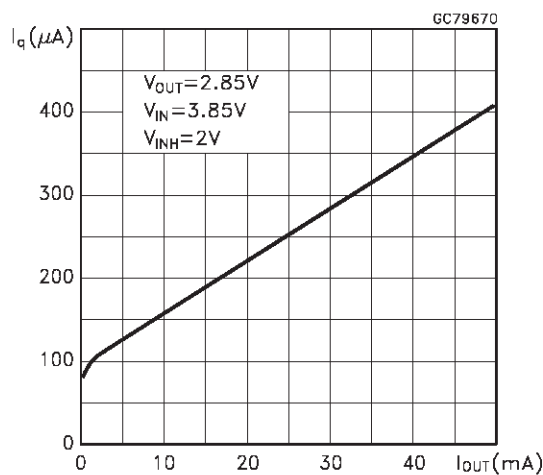
Dropout Voltage vs Output Current



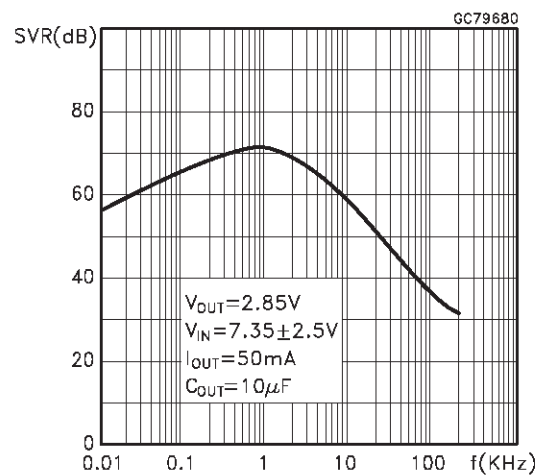
Quiescent Current vs Temperature



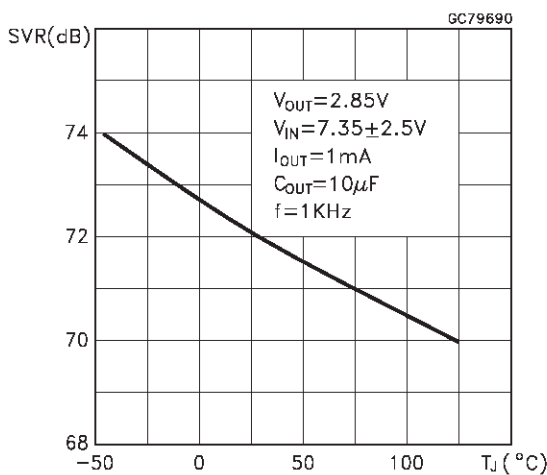
Quiescent Current vs Output Current



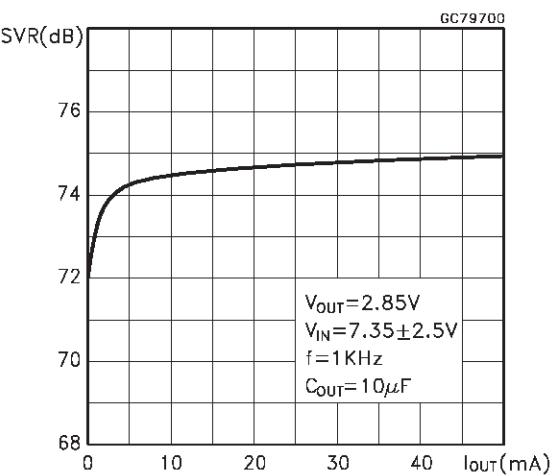
S.V.R. vs Frequency



S.V.R. vs Temperature

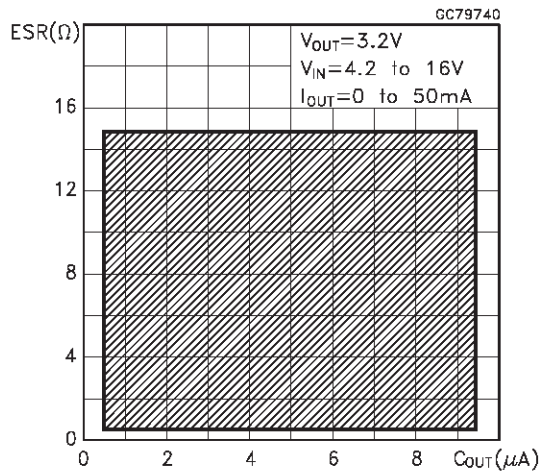


S.V.R. vs Output Current

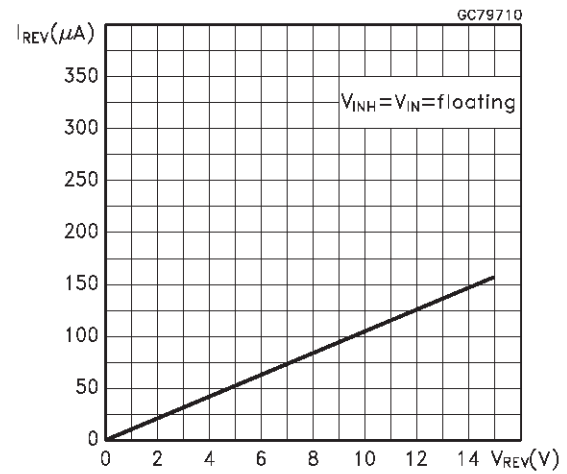


## TYPICAL PERFORMANCE CHARACTERISTICS (continued)

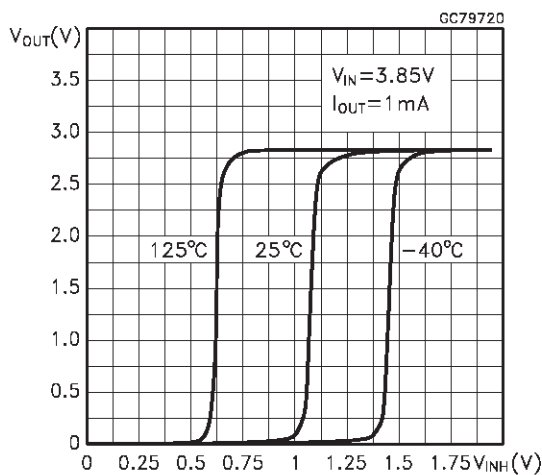
Stability



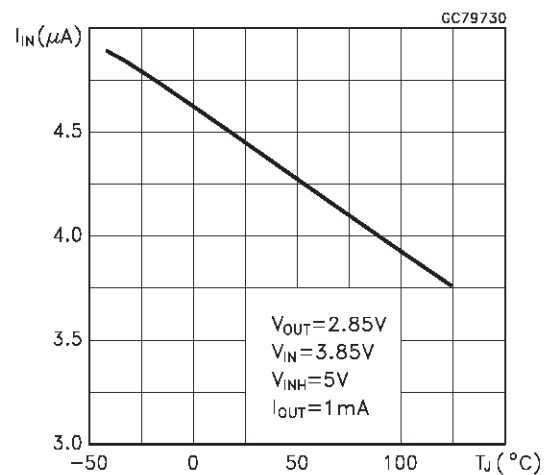
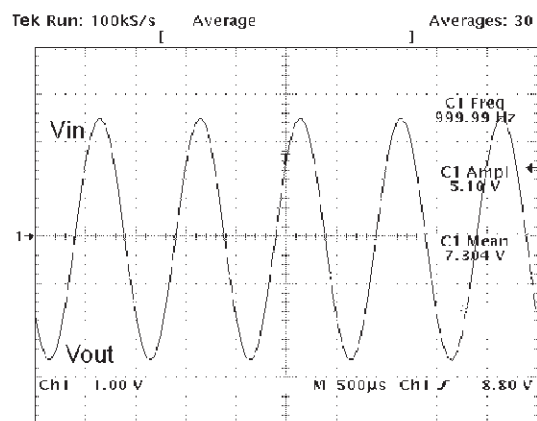
Reverse Current vs Reverse Voltage



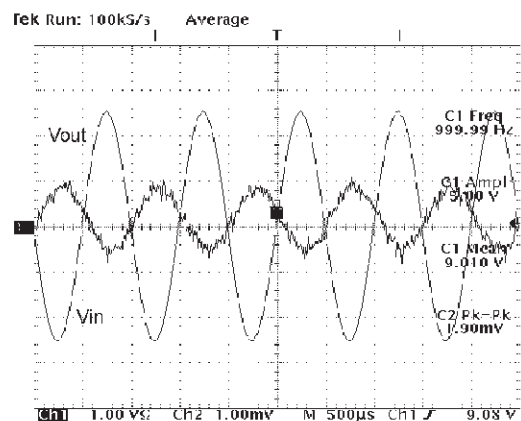
Output Voltage vs Inhibit Voltage



Inhibit Current vs Temperature

Supply Voltage Rejection at  $V_{OUT} = 2.85V$ 

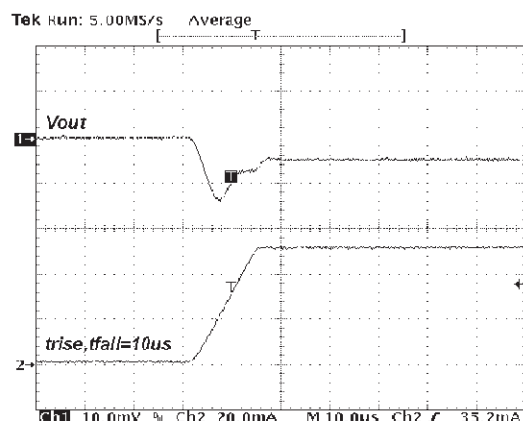
$V_{IN} = 7.35 \pm 2.5V$ ,  $I_{OUT} = 50mA$ ,  $f=1KHz$

Supply Voltage Rejection at  $V_{OUT} = 5V$ 

$V_{IN} = 9 \pm 2.5V$ ,  $I_{OUT} = 50mA$ ,  $f=1KHz$

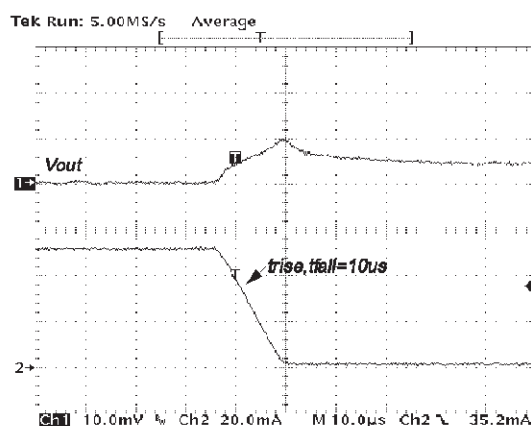
## TYPICAL PERFORMANCE CHARACTERISTICS (continued)

## Line Transient Response



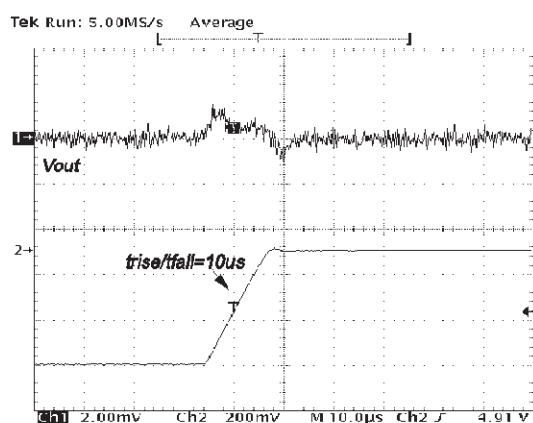
$V_{CC} = 5V$ ,  $I_{OUT} = 1$  to  $50mA$ ,  $C_{OUT} = 10\mu F$ ,  $C_{IN} = 150nF$   
(ESR=1Ω at 1KHz)

## Line Transient Response



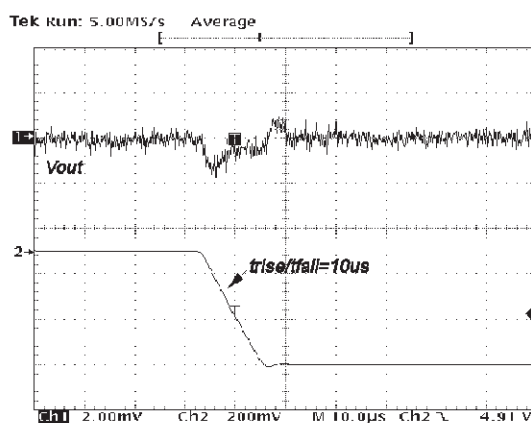
$V_{CC} = 5V$ ,  $I_{OUT} = 50$  to  $1mA$ ,  $C_{OUT} = 10\mu F$ ,  $C_{IN} = 150nF$   
(ESR=1Ω at 1KHz)

## Line Transient Response



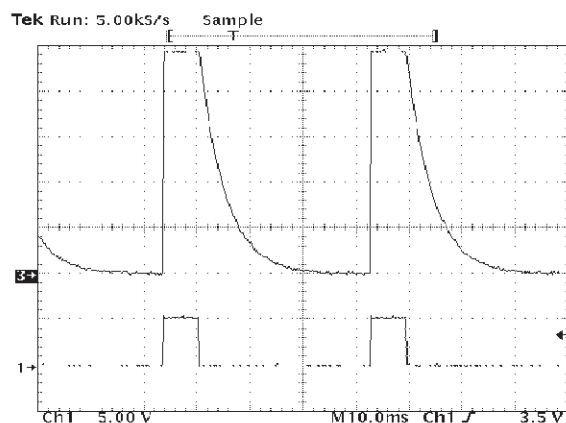
$V_{CC} = 4.75$  to  $5.25V$ ,  $I_{OUT} = 0.05A$ ,  $C_{OUT} = 10\mu F$ ,  $C_{IN} = 150nF$   
(ESR=1Ω at 1KHz)

## Line Transient Response



$V_{CC} = 5.25$  to  $6.25V$ ,  $I_{OUT} = 0.05A$ ,  $C_{OUT} = 10\mu F$ ,  $C_{IN} = 150nF$   
(ESR=1Ω at 1KHz)

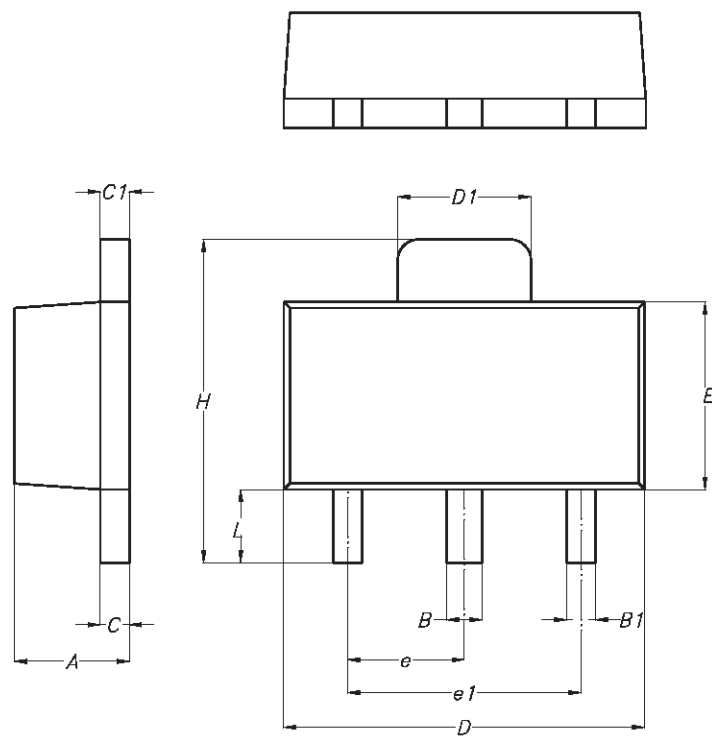
## Supply Voltage Rejection



$V_{OUT} = 5V$ ,  $V_{IN} = 6V$ ,  $V_{INH} = 0$  to  $5V$ ,  $C_{IN} = C_{OUT} = 1\mu F$  (Tant.)

## SOT-89 MECHANICAL DATA

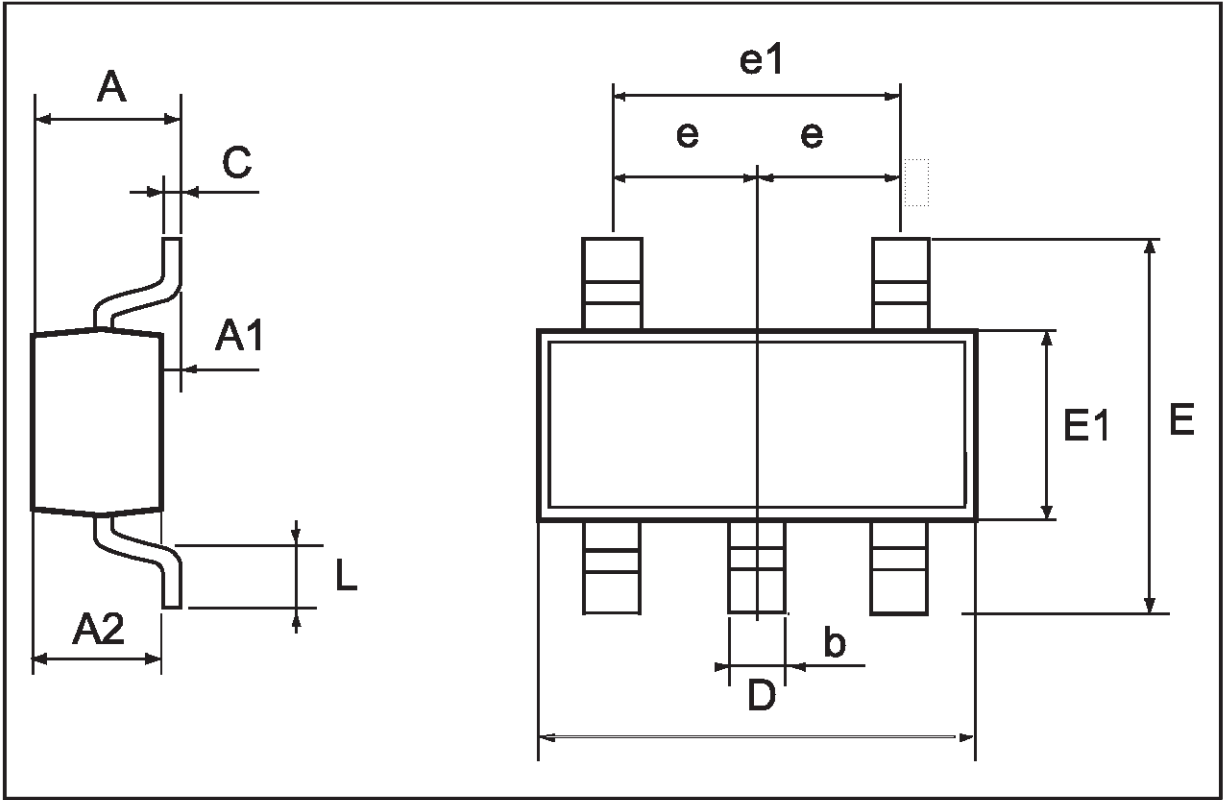
| DIM. | mm   |      |      | mils  |      |       |
|------|------|------|------|-------|------|-------|
|      | MIN. | TYP. | MAX. | MIN.  | TYP. | MAX.  |
| A    | 1.4  |      | 1.6  | 55.1  |      | 63.0  |
| B    | 0.44 |      | 0.56 | 17.3  |      | 22.0  |
| B1   | 0.36 |      | 0.48 | 14.2  |      | 18.9  |
| C    | 0.35 |      | 0.44 | 13.8  |      | 17.3  |
| C1   | 0.35 |      | 0.44 | 13.8  |      | 17.3  |
| D    | 4.4  |      | 4.6  | 173.2 |      | 181.1 |
| D1   | 1.62 |      | 1.83 | 63.8  |      | 72.0  |
| E    | 2.29 |      | 2.6  | 90.2  |      | 102.4 |
| e    | 1.42 |      | 1.57 | 55.9  |      | 61.8  |
| e1   | 2.92 |      | 3.07 | 115.0 |      | 120.9 |
| H    | 3.94 |      | 4.25 | 155.1 |      | 167.3 |
| L    | 0.89 |      | 1.2  | 35.0  |      | 47.2  |



P025H

SOT23-5L MECHANICAL DATA

| DIM. | mm   |      |      | mils  |      |       |
|------|------|------|------|-------|------|-------|
|      | MIN. | TYP. | MAX. | MIN.  | TYP. | MAX.  |
| A    | 0.90 |      | 1.45 | 35.4  |      | 57.1  |
| A1   | 0.00 |      | 0.15 | 0.0   |      | 5.9   |
| A2   | 0.90 |      | 1.30 | 35.4  |      | 51.2  |
| b    | 0.35 |      | 0.50 | 13.7  |      | 19.7  |
| C    | 0.09 |      | 0.20 | 3.5   |      | 7.8   |
| D    | 2.80 |      | 3.00 | 110.2 |      | 118.1 |
| E    | 2.60 |      | 3.00 | 102.3 |      | 118.1 |
| E1   | 1.50 |      | 1.75 | 59.0  |      | 68.8  |
| L    | 0.35 |      | 0.55 | 13.7  |      | 21.6  |
| e    |      | 0.95 |      |       | 37.4 |       |
| e1   |      | 1.9  |      |       | 74.8 |       |



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