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**79L09** Three-terminal negative voltage regulator

**TO-92 Encapsulate Three Terminal Voltage Regulator**

# 产品规格书

# 承认书

| 客户确认： | | | | 公司签章： |
|---|---|---|---|---|
| 部门 | 工程部 | 品保部 | 采购部 | |
| 签名 | | | | |
| 日期 | | | | |

# SHENZHEN HAOCHANG SEMICONDUCTOR CO.,LTD.

## TO-92 Encapsulate Three-terminal Voltage Regulator

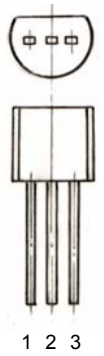
79L09 Three-terminal negative voltage regulator

**TO-92**

1.GND

2.IN

3.OUT




### FEATURES

Maximum Output current

$I_{OM:}$ 0.1 A

Output voltage

$V_O$: - 9 V

Continuous total dissipation

$P_D$: 0.625W

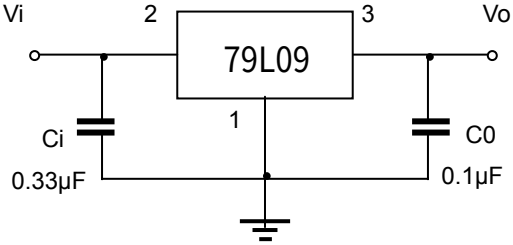
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Input Voltage | $V_I$ | -30 | V |
| Operating Junction Temperature Range | $T_{OPR}$ | 0—+125 | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55—+150 | ℃ |

**ELECTRICAL CHARACTERISTICS** (Vi=-16V,Io=40mA,Ci=0.33μF,Co=0.1μF, unless otherwise specified )

| Pa rameter | Symbol | Test conditions | | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| Output voltage | Vo | | 25℃ | -8.64 | -9.0 | -9.36 | V |
| | | -12V≤V I≤-24V, Io=1mA-40mA | 0-125℃ | -8.55 | -9.0 | -9.45 | V |
| | | Io=1mA-70mA | | -8.55 | -9.0 | -9.45 | V |
| Load Regulation | △Vo | Io=1mA-100mA | 25℃ | | 19 | 90 | mV |
| | | Io=1mA-40mA | 25℃ | | 11 | 40 | mV |
| Line regulation | △Vo | -12 V≤V I≤-24V | 25℃ | | 45 | 175 | mV |
| | | -13V≤V I≤-24V | 25℃ | | 40 | 125 | mV |
| Quiescent Current | Iq | | 25℃ | | 4.1 | 6.0 | mA |
| Quiescent Current Change | △Iq | -13V≤V I≤-24V | 0-125℃ | | | 1.5 | mA |
| | △Iq | 1mA≤V I≤40mA | 0-125℃ | | | 0.1 | mA |
| Output Noise Voltage | $V_N$ | 10Hz≤f≤100KHz | 25℃ | | 58 | | uV |
| Ripple Rejection | RR | -15V≤V I≤-24V,f=120Hz | 0-125℃ | | 45 | | dB |
| Dropout Voltage | Vd | | 25℃ | | 1.7 | | V |

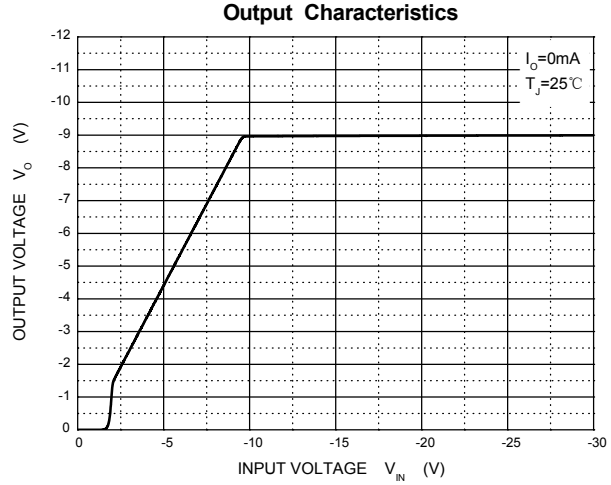
**TYPICA L APPLICATION**



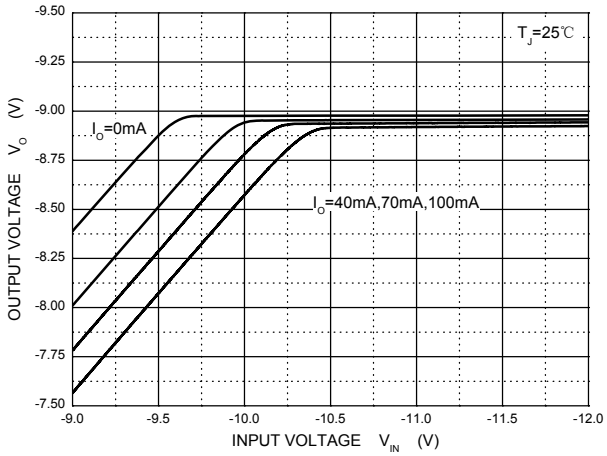

Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators

## Typical Characteristics

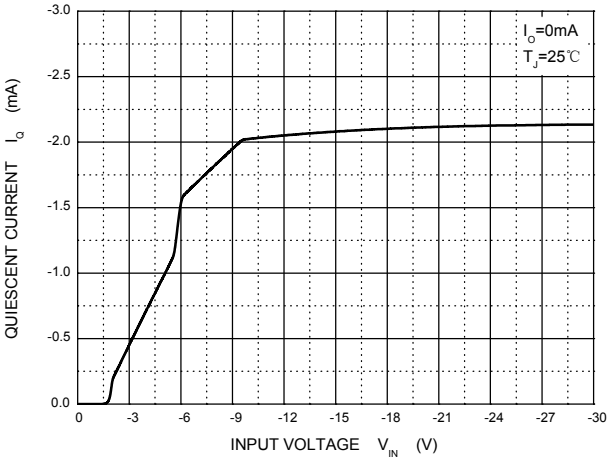
**Output Characteristics**



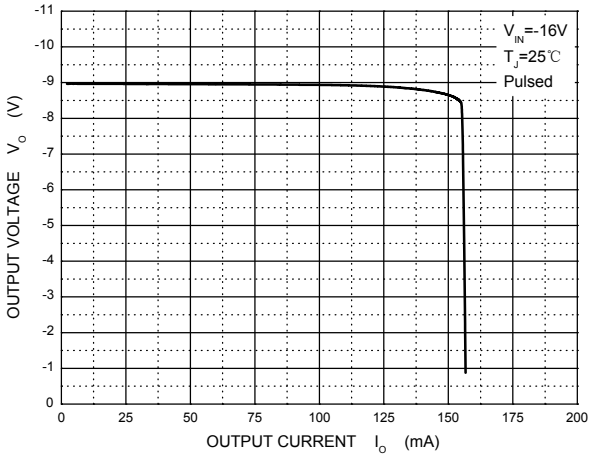

**Dropout Characteristics**



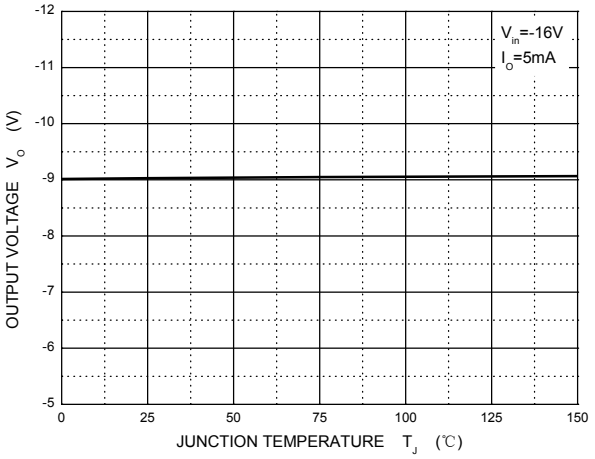

**Quiescent Current vs Input Voltage**



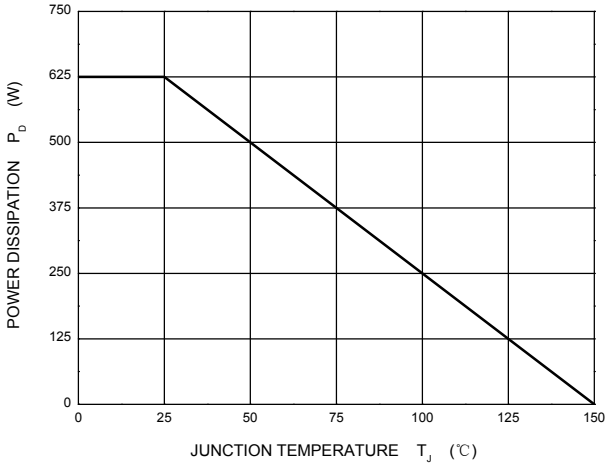

**Current Cut-off Grid Voltage**



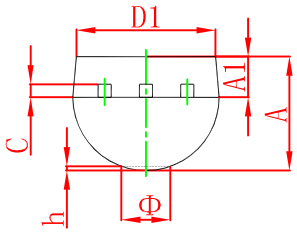

**Output Voltage vs Junction Temperature**

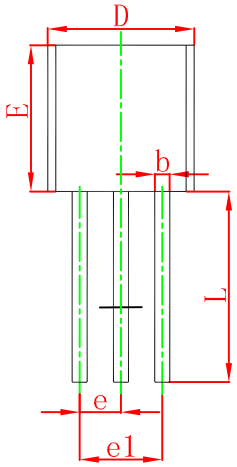



**Power Derating Curve**



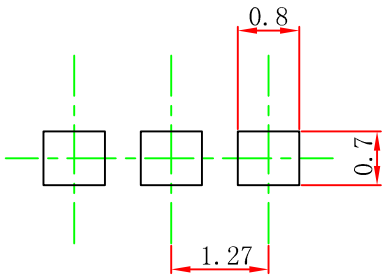
## TO-92 Package Outline Dimensions




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 3.300 | 3.700 | 0.130 | 0.146 |
| A1 | 1.100 | 1.400 | 0.043 | 0.055 |
| b | 0.380 | 0.550 | 0.015 | 0.022 |
| c | 0.360 | 0.510 | 0.014 | 0.020 |
| D | 4.400 | 4.700 | 0.173 | 0.185 |
| D1 | 3.430 | | 0.135 | |
| E | 4.300 | 4.700 | 0.169 | 0.185 |
| e | 1.270 TYP | | 0.050 TYP | |
| e1 | 2.440 | 2.640 | 0.096 | 0.104 |
| L | 14.100 | 14.500 | 0.555 | 0.571 |
| Φ | | 1.600 | | 0.063 |
| h | 0.000 | 0.380 | 0.000 | 0.015 |

## TO-92 Suggested Pad Layout




Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.