

## FEATURE

Maximum output current  $I_O$ : 0.1 A

Output voltage  $V_O$ : -5 V

Continuous total dissipation

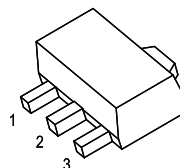
$P_D$ : SOT-89 0.5 W ( $T_a = 25^\circ\text{C}$ )

SOT-89-3L

1. OUT

2. GND

3. IN



**79L05**

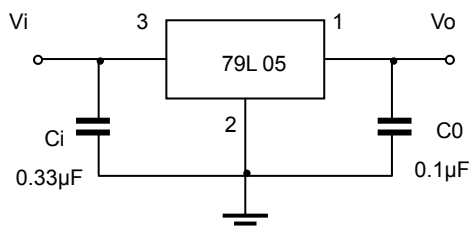
## ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

| Parameter                            | Symbol    | Value    | Units            |
|--------------------------------------|-----------|----------|------------------|
| Input Voltage                        | $V_i$     | -30      | V                |
| Operating Junction Temperature Range | $T_{OPR}$ | 0~+125   | $^\circ\text{C}$ |
| Storage Temperature Range            | $T_{STG}$ | -55~+150 | $^\circ\text{C}$ |

## ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

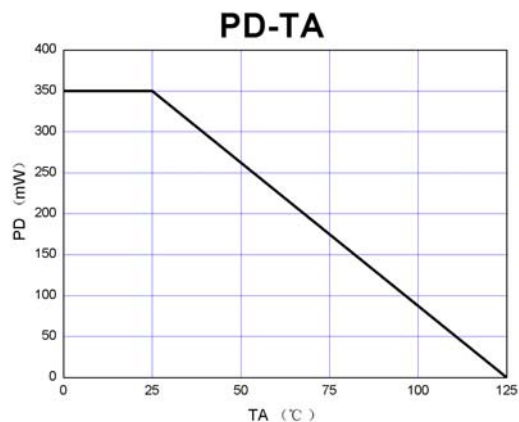
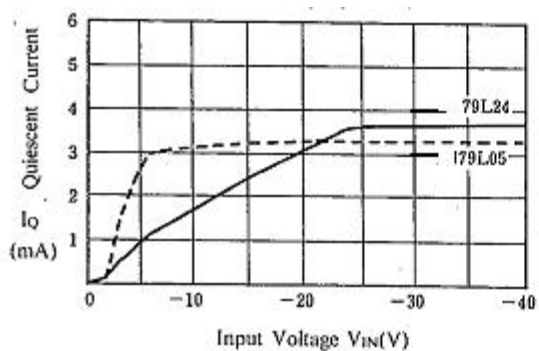
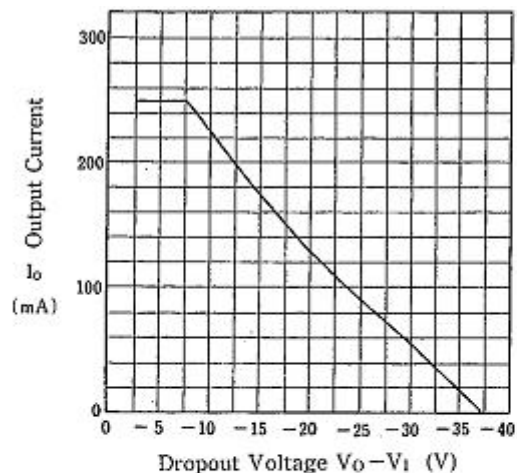
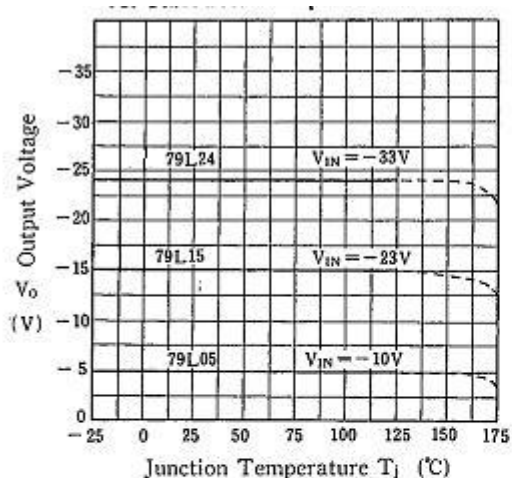
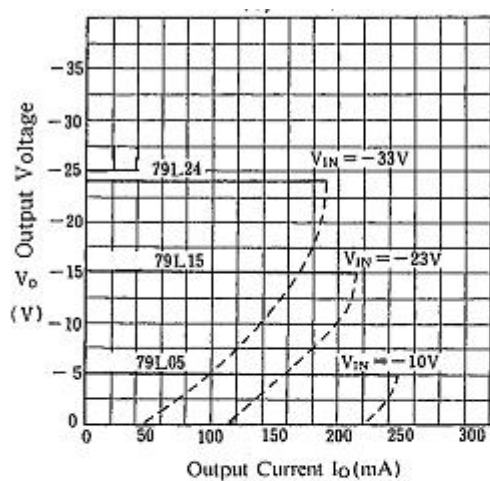
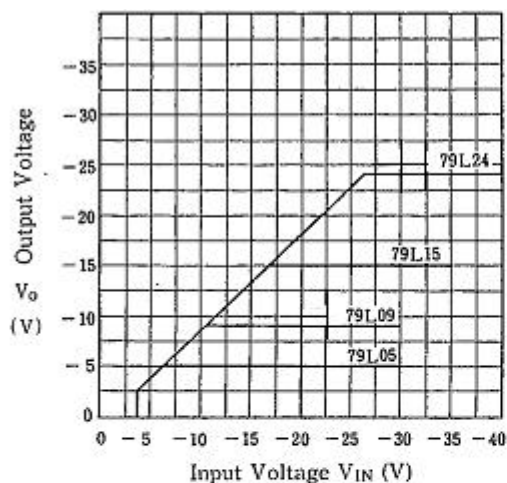
| Parameter                | Symbol       | Test conditions                                                           | MIN   | TYP  | MAX   | UNIT          |
|--------------------------|--------------|---------------------------------------------------------------------------|-------|------|-------|---------------|
| Output voltage           | $V_O$        | $25^\circ\text{C}$                                                        | -4.8  | -5.0 | -5.2  | V             |
|                          |              | $-7\text{V} \leq V_i \leq -20\text{V}, I_O = 1\text{mA} \sim 40\text{mA}$ | -4.75 | -5.0 | -5.25 | V             |
|                          |              | $I_O = 1\text{mA} \sim 70\text{mA}$                                       | -4.75 | -5.0 | -5.25 | V             |
| Load Regulation          | $\Delta V_O$ | $I_O = 1\text{mA} \sim 100\text{mA}$                                      |       | 20   | 60    | mV            |
|                          |              | $I_O = 1\text{mA} \sim 40\text{mA}$                                       |       | 10   | 30    | mV            |
| Line regulation          | $\Delta V_O$ | $-7\text{V} \leq V_i \leq -20\text{V}$                                    |       | 15   | 150   | mV            |
|                          |              | $-8\text{V} \leq V_i \leq -20\text{V}$                                    |       | 12   | 100   | mV            |
| Quiescent Current        | $I_q$        | $25^\circ\text{C}$                                                        |       |      | 6     | mA            |
| Quiescent Current Change | $\Delta I_q$ | $-8\text{V} \leq V_i \leq -20\text{V}$                                    |       |      | 1.5   | mA            |
|                          | $\Delta I_q$ | $1\text{mA} \leq V_i \leq 40\text{mA}$                                    |       |      | 0.1   | mA            |
| Output Noise Voltage     | $V_N$        | $10\text{Hz} \leq f \leq 100\text{KHz}$                                   |       | 40   |       | $\mu\text{V}$ |
| Ripple Rejection         | RR           | $-8\text{V} \leq V_i \leq -18\text{V}, f = 120\text{Hz}$                  | 41    | 49   |       | dB            |
| Dropout Voltage          | $V_d$        | $25^\circ\text{C}$                                                        |       | 1.7  |       | V             |

## TYPICAL APPLICATION



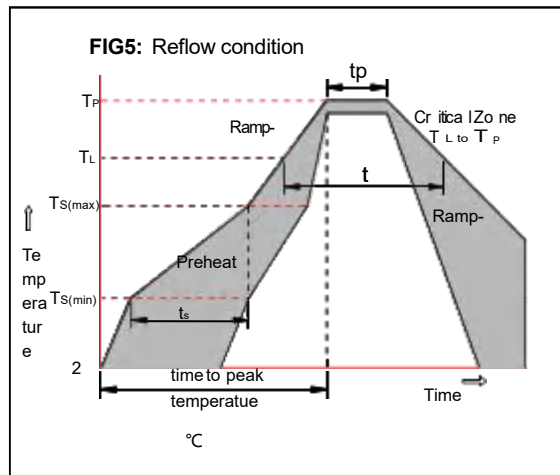
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

RATING AND CHARACTERISTIC CURVES



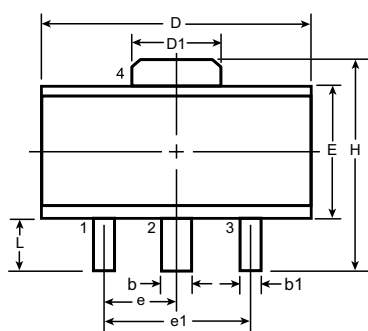
## Soldering parameters

| Reflow Condition                                        |                                    | Pb-Free assembly<br>(see as below) |
|---------------------------------------------------------|------------------------------------|------------------------------------|
| Pre Heat                                                | -Temperature Min ( $T_{s(min)}$ )  | +150 °C                            |
|                                                         | -Temperature Max ( $T_{s(max)}$ )  | +200 °C                            |
|                                                         | -Time (Min to Max) (ts)            | 60-180 secs.                       |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                    | 3 °C/sec. Max                      |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                    | 3 °C/sec. Max                      |
| Reflow                                                  | -Temperature ( $T_L$ ) (Liquid us) | +217 °C                            |
|                                                         | -Temperature ( $t_L$ )             | 60-150 secs.                       |
| Peak Temp ( $T_P$ )                                     |                                    | +260(+0/-5) °C                     |
| Time within 5 °C of actual Peak Temp ( $t_P$ )          |                                    | 30 secs. Max                       |
| Ramp-down Rate                                          |                                    | 6 °C/sec. Max                      |
| Time 25 °C to Peak Temp ( $T_P$ )                       |                                    | 8 min. Max                         |
| Do not exceed                                           |                                    | +260 °C                            |

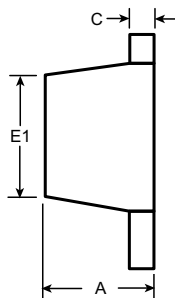


## Package Dimensions & Suggested Pad Layout

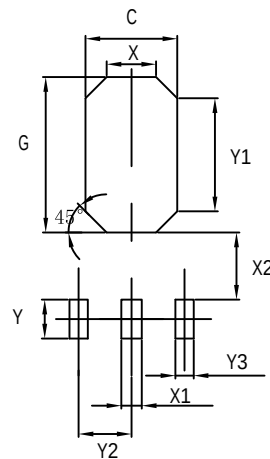
### SOT89



Top View



Side View

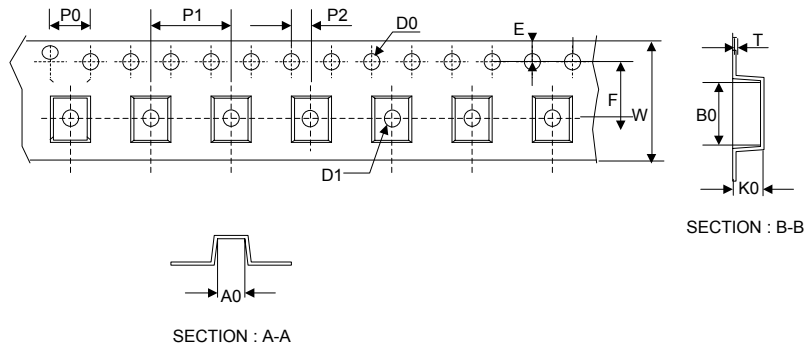


| Symbol          |     | A    | b    | b1   | C   | D    | D1   | E    | E1                | e           | e1          | H    | L    |
|-----------------|-----|------|------|------|-----|------|------|------|-------------------|-------------|-------------|------|------|
| Dimensions (mm) | MIN | 1.40 | 0.44 | 0.36 | 0.3 | 4.40 | 1.50 | 2.29 | 2.00 <sup>f</sup> | 1.50<br>BSC | 3.00<br>BSC | 3.94 | 0.89 |
|                 | NOM | -    | -    | -    | -   | -    | -    | -    | -                 |             |             | -    | -    |
|                 | MAX | 1.60 | 0.56 | 0.48 | 0.5 | 4.60 | 1.75 | 2.60 | 2.29              |             |             | 4.25 | 1.20 |

| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 2.50          |
| G          | 3.60          |
| X          | 1.40          |
| X1         | 0.90          |
| X2         | 0.90          |
| Y          | 1.40          |
| Y1         | 2.60          |
| Y2         | 1.50          |
| Y3         | 0.90          |

## Tape & reel specification

### Tape



| Symbol            | Dimension (mm) |
|-------------------|----------------|
| P0                | 4.00±0.20      |
| P1                | 8.00±0.20      |
| P2                | 2.00±0.20      |
| D0                | 1.60±0.20      |
| D1                | 1.60±0.20      |
| E                 | 1.75±0.20      |
| F                 | 7.50±0.15      |
| W                 | 16.00±0.20     |
| A0                | 6.30±0.20      |
| B0                | 8.25±0.20      |
| K0                | 2.60±0.20      |
| T                 | 0.23±0.10      |
| D2                | 180.0±5.0      |
| D3                | 60Min.         |
| D4                | R32.0±2.0      |
| G                 | R86.5±2.0      |
| H                 | R30.0±2.0      |
| I                 | 13.0±2.0       |
| W1                | 13.20±2.0      |
| W2                | 16.50±2.0      |
| Quantity: 1000PCS |                |

### 13" Reel

