

### TS79L05 Electrical Characteristics

( $V_{IN}=-10V$ ,  $I_{OUT}=40mA$ ,  $0^{\circ}C \leq T_J \leq 125^{\circ}C$ ,  $C_{IN}=0.33\mu F$ ,  $C_{OUT}=0.1\mu F$ ; unless otherwise specified.)

| Parameter                                 | Symbol                        | Test Condition   |                               | Min   | Typ   | Max   | Unit            |
|---|-------------------------------|--|-------------------------------|-------|-------|-------|-----------------|
| Output voltage                            | $V_{OUT}$                     | $T_J=25^{\circ}C$  |                               | -4.80 | -5    | -5.20 | V               |
|   |                               | $-7.5V \leq V_{IN} \leq -20V$ ,<br>$5mA \leq I_{OUT} \leq 100mA$ |                               | -4.75 | -5    | -5.25 |                 |
| Line Regulation                           | $REG_{LINE}$                  | $T_J=25^{\circ}C$  | $-7.5V \leq V_{IN} \leq -20V$ | --    | 50    | 150   | mV              |
| Load Regulation                           | $REG_{LOAD}$                  | $T_J=25^{\circ}C$  | $5mA \leq I_{OUT} \leq 100mA$ | --    | 20    | 60    |                 |
|   |                               |  | $5mA \leq I_{OUT} \leq 40mA$  | --    | 10    | 30    |                 |
| Quiescent Current                         | $I_Q$                         | $I_{OUT}=0$ , $T_J=25^{\circ}C$                                  |                               | --    | 3     | 6     | mA              |
| Quiescent Current Change                  | $\Delta I_Q$                  | $-7.5V \leq V_{IN} \leq -25V$                                    |                               | --    | --    | 1.5   |                 |
|   |                               | $5mA \leq I_{OUT} \leq 40mA$                                     |                               | --    | --    | 0.1   |                 |
| Output Noise Voltage                      | $V_N$                         | $10Hz \leq f \leq 100KHz$ , $T_J=25^{\circ}C$                    |                               | --    | 40    | --    | $\mu V$         |
| Ripple Rejection Ratio                    | RR                            | $f=120Hz$ , $-8V \leq V_{IN} \leq -18V$                          |                               | 41    | 49    | --    | dB              |
| Voltage Drop                              | $V_{DROP}$                    | $I_{OUT}=100mA$ , $T_J=25^{\circ}C$                              |                               | --    | 1.7   | --    | V               |
| Peak Output Current                       | $I_{O\ peak}$                 | $T_J=25^{\circ}C$  |                               | --    | 0.15  | --    | A               |
| Temperature Coefficient of Output Voltage | $\Delta V_{OUT} / \Delta T_J$ | $I_{OUT}=5mA$ , $0^{\circ}C \leq T_J \leq 125^{\circ}C$          |                               | --    | -0.65 | --    | mV/ $^{\circ}C$ |

### TS79L09 Electrical Characteristics

( $V_{IN}=-15V$ ,  $I_{OUT}=40mA$ ,  $0^{\circ}C \leq T_J \leq 125^{\circ}C$ ,  $C_{IN}=0.33\mu F$ ,  $C_{OUT}=0.1\mu F$ ; unless otherwise specified.)

| Parameter                                 | Symbol                        | Test Condition  |                                | Min   | Typ  | Max   | Unit            |
|---|-------------------------------|---|--------------------------------|-------|------|-------|-----------------|
| Output voltage                            | $V_{OUT}$                     | $T_J=25^{\circ}C$   |                                | -8.65 | -9   | -9.36 | V               |
|   |                               | $-11.5V \leq V_{IN} \leq -24V$ ,<br>$5mA \leq I_{OUT} \leq 100mA$ |                                | -8.57 | -9   | -9.45 |                 |
| Line Regulation                           | $REG_{LINE}$                  | $T_J=25^{\circ}C$   | $-11.5V \leq V_{IN} \leq -24V$ | --    | 90   | 180   | mV              |
| Load Regulation                           | $REG_{LOAD}$                  | $T_J=25^{\circ}C$   | $5mA \leq I_{OUT} \leq 100mA$  | --    | 30   | 90    |                 |
|   |                               |   | $5mA \leq I_{OUT} \leq 40mA$   | --    | 15   | 45    |                 |
| Quiescent Current                         | $I_Q$                         | $I_{OUT}=0$ , $T_J=25^{\circ}C$                                   |                                | --    | 3    | 6     | mA              |
| Quiescent Current Change                  | $\Delta I_Q$                  | $-11V \leq V_{IN} \leq -23V$                                      |                                | --    | --   | 1.5   |                 |
|   |                               | $5mA \leq I_{OUT} \leq 40mA$                                      |                                | --    | --   | 0.1   |                 |
| Output Noise Voltage                      | $V_N$                         | $10Hz \leq f \leq 100KHz$ , $T_J=25^{\circ}C$                     |                                | --    | 60   | --    | $\mu V$         |
| Ripple Rejection Ratio                    | RR                            | $f=120Hz$ , $-13V \leq V_{IN} \leq -24V$                          |                                | 37    | 57   | --    | dB              |
| Voltage Drop                              | $V_{DROP}$                    | $I_{OUT}=100mA$ , $T_J=25^{\circ}C$                               |                                | --    | 1.7  | --    | V               |
| Peak Output Current                       | $I_{O\ peak}$                 | $T_J=25^{\circ}C$   |                                | --    | 0.15 | --    | A               |
| Temperature Coefficient of Output Voltage | $\Delta V_{OUT} / \Delta T_J$ | $I_{OUT}=5mA$ , $0^{\circ}C \leq T_J \leq 125^{\circ}C$           |                                | --    | -0.9 | --    | mV/ $^{\circ}C$ |

- Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible, and thermal effects must be taken into account separately.
- This specification applies only for DC power dissipation permitted by absolute maximum ratings.

### Ordering information

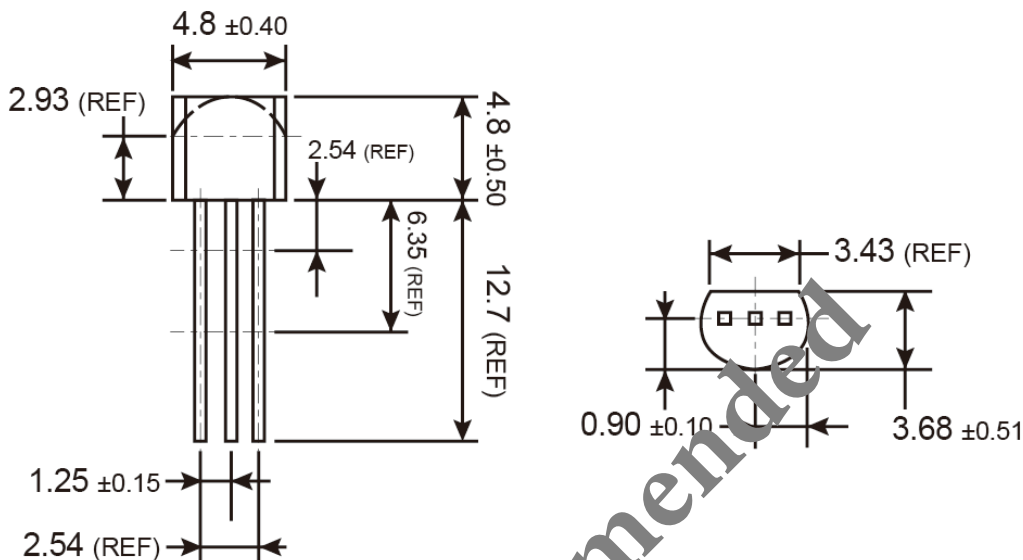
| Voltage | TO-92                          | SOT-89        |
|---------|--------------------------------|---------------|
| 5V      | TS79L05CT B0G<br>TS79L05CT A3G | TS79L05CY RMG |
| 9V      | TS79L09CT B0G<br>TS79L09CT A3G |               |

### Packing code information

| Packing | B0: 1kpcs / Bulk<br>A3: 2kcs / Ammo | 1kpcs / 7" Reel |
|---------|-------------------------------------|-----------------|
|         |                                     |                 |

Not Recommended

### TO-92 Mechanical Drawing



Unit: Millimeters

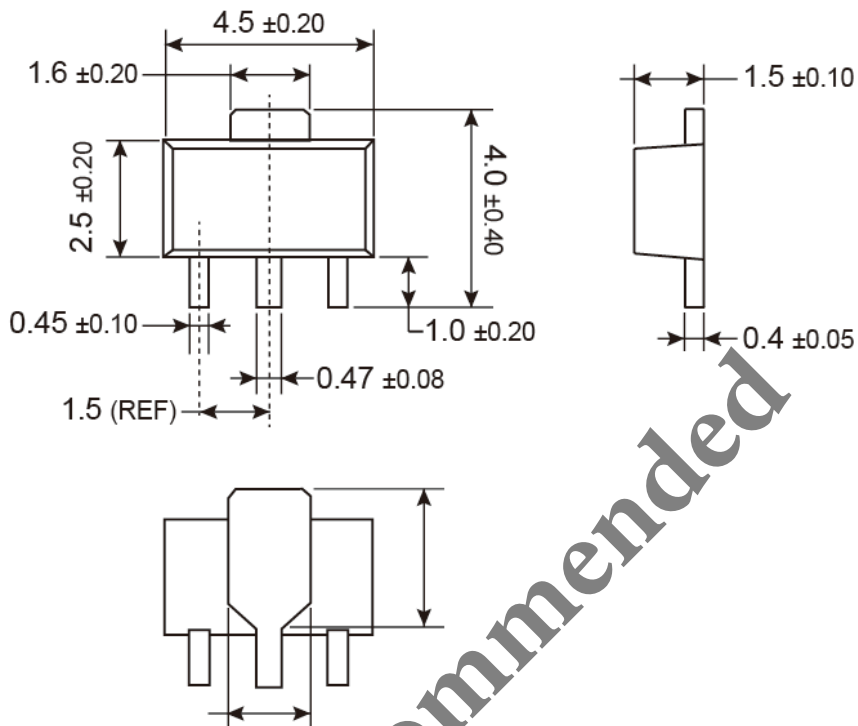
### Marking Diagram



- XX** = Output Voltage  
(05=-5V, 09=-9V)
- YY** = Year Code
- M** = Month Code for Halogen Free Product
 

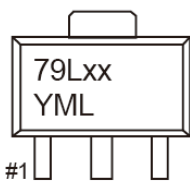
|               |               |               |               |
|---------------|---------------|---------------|---------------|
| <b>O</b> =Jan | <b>P</b> =Feb | <b>Q</b> =Mar | <b>R</b> =Apr |
| <b>S</b> =May | <b>T</b> =Jun | <b>U</b> =Jul | <b>V</b> =Aug |
| <b>W</b> =Sep | <b>X</b> =Oct | <b>Y</b> =Nov | <b>Z</b> =Dec |
- L** = Lot Code

### SOT-89 Mechanical Drawing



Unit: Millimeters

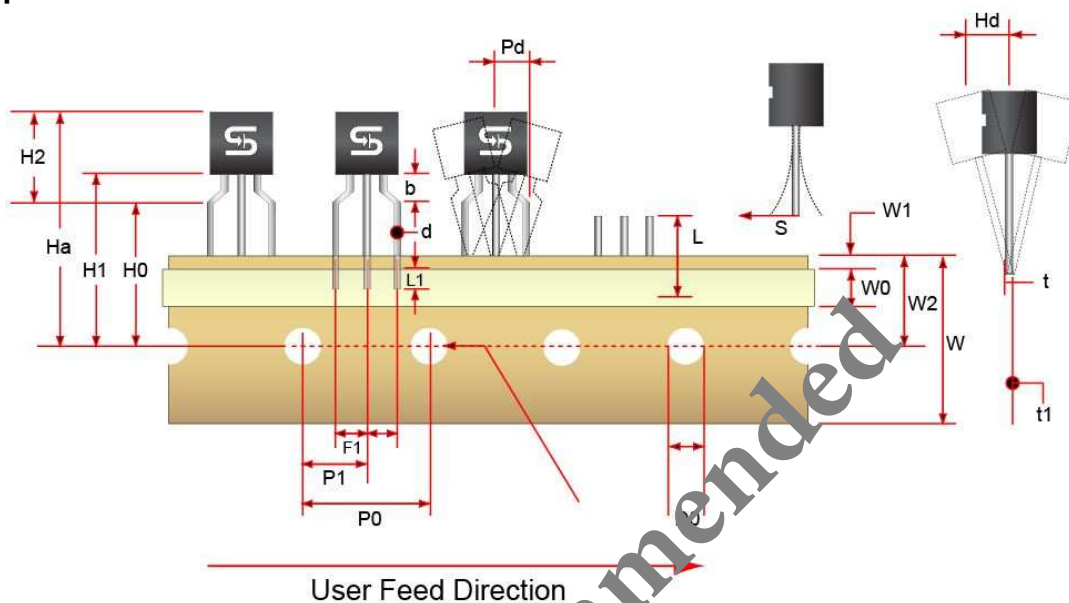
### Marking Diagram



- xx** = Output Voltage  
(**05** = -5V)
- Y** = Year Code
- M** = Month Code for Halogen Free Product
  - O** =Jan
  - P** =Feb
  - Q** =Mar
  - R** =Apr
  - S** =May
  - T** =Jun
  - U** =Jul
  - V** =Aug
  - W** =Sep
  - X** =Oct
  - Y** =Nov
  - Z** =Dec
- L** = Lot Code

### TO-92 Ammo Pack Specification

#### TO-92 Tape Leader and Trailer



#### TO-92 Tape Dimension

| Item Description                   | Symbol | Dimension    |
|------------------------------------|--------|--------------|
| Base of Package to Lead Bend       | b      | 3.0 (typ.)   |
| Component Height                   | Ha     | 23.57 (typ.) |
| Lead Clinch Height                 | H0     | 16.0 ±0.5    |
| Component Base Height              | H1     | 19.0 ±0.5    |
| Component Top to Lead Bend         | H2     | 8.0 (max)    |
| Component Alignment (side / side)  | Pd     | 1.02 (max)   |
| Component Alignment (front / back) | Hd     | 0.79 (max)   |
| Feed Hole Pitch                    | P0     | 12.7 ±0.3    |
| Hole Center to Component Center    | P1     | 6.25 ±0.4    |
| Lead Spread                        | F1     | 2.5 ±0.3     |
| Lead Thickness                     | d      | 0.46 (typ.)  |
| Cut Lead Length                    | L      | 10.9 (max)   |
| Taped Lead Length                  | L1     | 5.31 (typ.)  |
| Taped Lead Thickness               | t      | 0.81 ±0.2    |
| Carrier Tape Thickness             | t1     | 0.5 ±0.2     |
| Carrier Tape Width                 | W      | 18.0 ±0.5    |
| Hold – down Tape Width             | W0     | 0.5 ±0.2     |
| Hold – down Tape position          | W1     | 9.0 ±0.7     |
| Feed Hole Position                 | W2     | 6.0 ±0.2     |
| Sprocket Hole Diameter             | D0     | 4.0 ±0.2     |
| Lead Spring Out                    | S      | 0.1 (max)    |

Note: All dimensions are in millimeter.

# TS79L00 Series

## 3-Terminal 100mA Negative Voltage Regulator

**Not Recommended**

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