

# 8 Pin Mini DIP and Mini DIL 5 Tap TTL Compatible Active Delay Lines

## EP9458-XX & EP9458-XX-LF

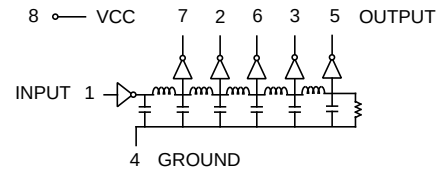
Add "-LF" after part number for Lead-Free

| PCA Part Number | Tap Delays<br>( $\pm 5\%$ or $\pm 2\text{nS}$ ) | Total Delay<br>( $\pm 5\%$ or $\pm 2\text{nS}$ ) | PCA Part Number | Tap Delays<br>( $\pm 5\%$ or $\pm 2\text{nS}$ ) | Total Delay<br>( $\pm 5\%$ or $\pm 2\text{nS}$ ) |
|-----------------|-------------------------------------------------|--------------------------------------------------|-----------------|-------------------------------------------------|--------------------------------------------------|
| EP9458-25(-LF)  | 5, 10, 15, 20                                   | 25                                               | EP9458-150(-LF) | 30, 60, 90, 120                                 | 150                                              |
| EP9458-30(-LF)  | 6, 12, 18, 24                                   | 30                                               | EP9458-175(-LF) | 35, 70, 105, 140                                | 175                                              |
| EP9458-35(-LF)  | 7, 14, 21, 28                                   | 35                                               | EP9458-200(-LF) | 40, 80, 120, 160                                | 200                                              |
| EP9458-40(-LF)  | 8, 16, 24, 32                                   | 40                                               | EP9458-225(-LF) | 45, 90, 135, 180                                | 225                                              |
| EP9458-45(-LF)  | 9, 18, 27, 36                                   | 45                                               | EP9458-250(-LF) | 50, 100, 150, 200                               | 250                                              |
| EP9458-50(-LF)  | 10, 20, 30, 40                                  | 50                                               | EP9458-300(-LF) | 60, 120, 180, 240                               | 300                                              |
| EP9458-60(-LF)  | 12, 24, 36, 48                                  | 60                                               | EP9458-350(-LF) | 70, 140, 210, 280                               | 350                                              |
| EP9458-75(-LF)  | 15, 30, 45, 60                                  | 75                                               | EP9458-400(-LF) | 80, 160, 240, 320                               | 400                                              |
| EP9458-100(-LF) | 20, 40, 60, 80                                  | 100                                              | EP9458-450(-LF) | 90, 180, 270, 360                               | 450                                              |
| EP9458-125(-LF) | 25, 50, 75, 100                                 | 125                                              | EP9458-500(-LF) | 100, 200, 300, 400                              | 500                                              |

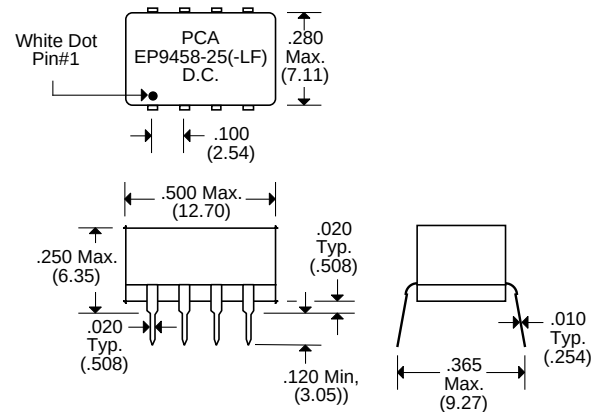
†Whichever is greater. Delay times referenced from input to leading and trailing edges at 25°C, 5.0V, with no load.

| DC Electrical Characteristics |                              |                                                         | Min. | Max.        | Unit    |
|-------------------------------|------------------------------|---------------------------------------------------------|------|-------------|---------|
| Parameter                     | Test Conditions              |                                                         |      |             |         |
| $V_{OH}$                      | High-Level Output Voltage    | $V_{CC} = \min. V_{IL} = \max. I_{OH} = \max$           | 2.7  |             | V       |
| $V_{OL}$                      | Low-Level Output Voltage     | $V_{CC} = \min. V_{IH} = \min. I_{OL} = \max$           |      | 0.5         | V       |
| $V_{IK}$                      | Input Clamp Voltage          | $V_{CC} = \min. I_I = I_{IK}$                           |      | -1.2        | V       |
| $I_{IH}$                      | High-Level Input Current     | $V_{CC} = \max. V_{IN} = 2.7V$                          |      | 50          | $\mu A$ |
|                               |                              | $V_{CC} = \max. V_{IN} = 5.25V$                         |      | 1.0         | mA      |
| $I_{IL}$                      | Low-Level Input Current      | $V_{CC} = \max. V_{IN} = 0.5V$                          |      | -2          | mA      |
| $I_{OS}$                      | Short Circuit Output Current | $V_{CC} = \max. V_{OUT} = 0.$<br>(One output at a time) | -40  | -100        | mA      |
| $I_{CCH}$                     | High-Level Supply Current    | $V_{CC} = \max. V_{IN} = \text{OPEN}$                   |      | 75          | mA      |
| $I_{CCL}$                     | Low-Level Supply Current     | $V_{CC} = \max. V_{IN} = 0$                             |      | 75          | mA      |
| $T_{RO}$                      | Output Rise Time             | $T_d \leq 500 \text{ nS}$ (0.75 to 2.4 Volts)           |      | 4           | nS      |
| $N_H$                         | Fanout High-Level Output     | $V_{CC} = \max. V_{OH} = 2.7V$                          |      | 20 TTL Load |         |
| $N_L$                         | Fanout Low-Level Output      | $V_{CC} = \max. V_{OL} = 0.5V$                          |      | 10 TTL Load |         |

### Schematic



### Package



| Recommended Operating Conditions |                                |  | Min. | Max. | Unit |
|----------------------------------|--------------------------------|--|------|------|------|
| $V_{CC}$                         | Supply Voltage                 |  | 4.75 | 5.25 | V    |
| $V_{IH}$                         | High-Level Input Voltage       |  | 2.0  |      | V    |
| $V_{IL}$                         | Low-Level Input Voltage        |  |      | 0.8  | V    |
| $I_{IK}$                         | Input Clamp Current            |  |      | -18  | mA   |
| $I_{OH}$                         | High-Level Output Current      |  |      | -1.0 | mA   |
| $I_{OL}$                         | Low-Level Output Current       |  |      | 20   | mA   |
| $PW^*$                           | Pulse Width of Total Delay     |  | 40   |      | %    |
| $d^*$                            | Duty Cycle                     |  |      | 40   | %    |
| $T_A$                            | Operating Free-Air Temperature |  | 0    | +70  | °C   |

\*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25° C |                                                   |     | Unit  |
|-------------------------------------|---------------------------------------------------|-----|-------|
| $E_{IN}$                            | Pulse Input Voltage                               | 3.2 | Volts |
| $PW$                                | Pulse Width % of Total Delay                      | 110 | %     |
| $T_{RI}$                            | Pulse Rise Time (0.75 - 2.4 Volts)                | 2.0 | nS    |
| $P_{RR}$                            | Pulse Repetition Rate @ $T_d \leq 200 \text{ nS}$ | 1.0 | MHz   |
|                                     | Pulse Repetition Rate @ $T_d > 200 \text{ nS}$    | 100 | KHz   |
| $V_{CC}$                            | Supply Voltage                                    | 5.0 | Volts |

| Notes :                                        | EP9458-XX                   | EP9458-XX-LF                |
|------------------------------------------------|-----------------------------|-----------------------------|
| 1. Lead Finish                                 | SnPb                        | Hot Tin Dip (Sn)            |
| 2. Peak Solder Rating<br>(Wave Solder Process) | 260°C<br>10 (+2/-0) seconds | 260°C<br>10 (+2/-0) seconds |
| 4. Weight                                      | TBD grams                   | TBD grams                   |
| 5. Packaging Information<br>(Tube)             | TBD pieces/tube             | TBD pieces/tube             |

Unless Otherwise Specified Dimensions are in Inches /mm  $\pm .010 / .25$