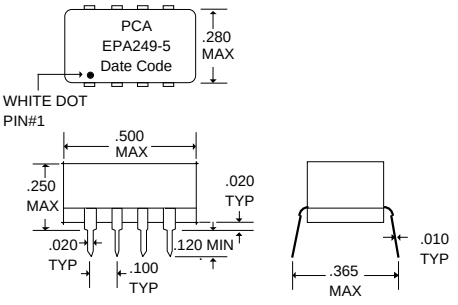
# 8 Pin Triple TTL Compatible Active Delay Lines

| Delay Time ±5% or ±2nS† | DIP Part Number | SMD-G Part Number | SMD-J Part Number | Delay Time ±5% or ±2nS† | DIP Part Number | SMD-G Part Number | SMD-J Part Number |
|---|---|---|---|---|---|---|---|
| 5 | EPA249-5 | EPA249G-5 | EPA249J-5 | 23 | EPA249-23 | EPA249G-23 | EPA249J-23 |
| 6 | EPA249-6 | EPA249G-6 | EPA249J-6 | 24 | EPA249-24 | EPA249G-24 | EPA249J-24 |
| 7 | EPA249-7 | EPA249G-7 | EPA249J-7 | 25 | EPA249-25 | EPA249G-25 | EPA249J-25 |
| 8 | EPA249-8 | EPA249G-8 | EPA249J-8 | 30 | EPA249-30 | EPA249G-30 | EPA249J-30 |
| 9 | EPA249-9 | EPA249G-9 | EPA249J-9 | 35 | EPA249-35 | EPA249G-35 | EPA249J-35 |
| 10 | EPA249-10 | EPA249G-10 | EPA249J-10 | 40 | EPA249-40 | EPA249G-40 | EPA249J-40 |
| 11 | EPA249-11 | EPA249G-11 | EPA249J-11 | 45 | EPA249-45 | EPA249G-45 | EPA249J-45 |
| 12 | EPA249-12 | EPA249G-12 | EPA249J-12 | 50 | EPA249-50 | EPA249G-50 | EPA249J-50 |
| 13 | EPA249-13 | EPA249G-13 | EPA249J-13 | 55 | EPA249-55 | EPA249G-55 | EPA249J-55 |
| 14 | EPA249-14 | EPA249G-14 | EPA249J-14 | 60 | EPA249-60 | EPA249G-60 | EPA249J-60 |
| 15 | EPA249-15 | EPA249G-15 | EPA249J-15 | 65 | EPA249-65 | EPA249G-65 | EPA249J-65 |
| 16 | EPA249-16 | EPA249G-16 | EPA249J-16 | 70 | EPA249-70 | EPA249G-70 | EPA249J-70 |
| 17 | EPA249-17 | EPA249G-17 | EPA249J-17 | 75 | EPA249-75 | EPA249G-75 | EPA249J-75 |
| 18 | EPA249-18 | EPA249G-18 | EPA249J-18 | 80 | EPA249-80 | EPA249G-80 | EPA249J-80 |
| 19 | EPA249-19 | EPA249G-19 | EPA249J-19 | 85 | EPA249-85 | EPA249G-85 | EPA249J-85 |
| 20 | EPA249-20 | EPA249G-20 | EPA249J-20 | 90 | EPA249-90 | EPA249G-90 | EPA249J-90 |
| 21 | EPA249-21 | EPA249G-21 | EPA249J-21 | 95 | EPA249-95 | EPA249G-95 | EPA249J-95 |
| 22 | EPA249-22 | EPA249G-22 | EPA249J-22 | 100 | EPA249-100 | EPA249G-100 | EPA249J-100 |

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

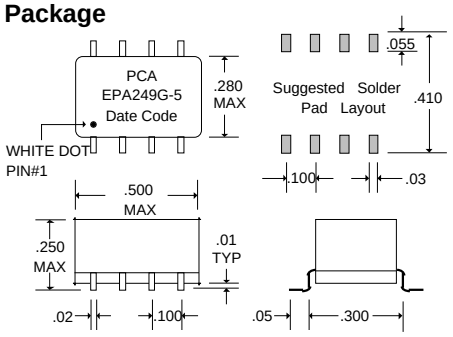
## DIP Package



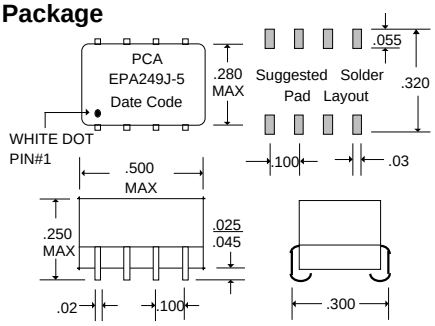

## DC Electrical Characteristics

| Parameter | | Test Conditions | Min | Max | Unit |
|---|---|---|---|---|---|
| $V_{OH}$ | 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. $I_I$ = $II_K$ | | -1.2V | V |
| $I_{IH}$ | High-Level Input Current | $V_{CC}$ = max. $V_{IN}$ = 2.7V | | 50 | µA |
| | | $V_{CC}$ = 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. (One output at a time) | -40 | -100 | mA |
| $I_{CCH}$ | High-Level Supply Current | $V_{CC}$ = max. $V_{IN}$ = OPEN | | 115 | mA |
| $I_{CCL}$ | Low-Level Supply Current | $V_{CC}$ = max. $V_{IN}$ = 0 | | 115 | mA |
| $T_{RO}$ | Output Rise Time | | | 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 | |

## SMD-G Package




## SMD-J Package




## Recommended Operating Conditions

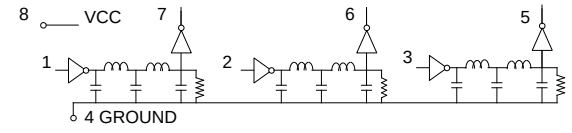
**These two values are inter-dependent.*

| | | 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 |
| $P_W$* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| $T_A$ | Operating Free-Air Temperature | 0 | +70 | °C |

## Input Pulse Test Conditions @ 25° C

| | | | Unit |
|---|---|---|---|
| $E_{IN}$ | Pulse Input Voltage | 3.2 | Volts |
| $P_W$ | Pulse Width % of Total Delay | 110 | % |
| $T_{RI}$ | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| $P_{RR}$ | Pulse Repetition Rate | 1.0 | MHz |
| $V_{CC}$ | Supply Voltage | 5.0 | Volts |

## Schematic




DSA249 Rev. A 2/5/96

QAF-CSO1 Rev. B 8/25/94

Unless Otherwise Noted Dimensions in Inches
Tolerances:
Fractional = ± 1/32
.XX = ± .030 .XXX = ± .010


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