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NTE2418 (NPN) & NTE2419 (PNP) Silicon Complementary Transistors Digital ^{w/2} Built-In Bias 47k Resistors (Surface Mount)

Features:

- Built-In Bias Resistors
- Small SOT-23 Surface Mount Package

Applications:

- Switching Circuits
- Inverters
- Interface Circuits
- Driver

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

| | |
|---|-------------------------------------|
| Collector-Base Voltage, V_{CBO} | 50V |
| Collector-Emitter Voltage, V_{CEO} | 50V |
| Emitter-Base Voltage, V_{EBO} | 10V |
| Collector Current, I_C | |
| Continuous | 100mA |
| Peak | 200mA |
| Collector Dissipation, P_C | 200mW |
| Operating Junction Temperature, T_J | $+150^\circ\text{C}$ |
| Storage Temperature Range, T_{stg} | -55° to $+150^\circ\text{C}$ |

Note 1. **NTE2418** is a **discontinued** device and **no longer available**.

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector Cutoff Current | I_{CBO} | $V_{CB} = 40\text{V}, I_E = 0$ | - | - | 0.1 | μA |
| | I_{CEO} | $V_{CE} = 40\text{V}, I_B = 0$ | - | - | 0.5 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = 5\text{V}, I_C = 0$ | 30 | 53 | 80 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = 5\text{V}, I_C = 10\text{mA}$ | 50 | - | - | |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = 10\mu\text{A}, I_E = 0$ | 50 | - | - | V |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 100\mu\text{A}, R_{BE} = \infty$ | 50 | - | - | V |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 5\text{mA}, I_B = 0.25\text{mA}$ | - | 0.1 | 0.3 | V |
| Current Gain-Bandwidth Product | f_T | $V_{CE} = 10\text{V}, I_C = 5\text{mA}$ | - | 250 | - | MHz |
| NTE2418 | | | | 200 | - | MHz |
| NTE2419 | | | | | | |

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-------------------------------|--------------|--|-----|-----|-----|------------|
| Output Capacitance NTE2418 | C_{ob} | $V_{CB} = 10\text{V}, f = 1\text{MHz}$ | - | 3.5 | - | pF |
| NTE2419 | | | - | 5.3 | - | pF |
| Input OFF Voltage | $V_{I(off)}$ | $V_{CE} = 5\text{V}, I_C = 100\mu\text{A}$ | 0.8 | 1.1 | 1.5 | V |
| Input ON Voltage | $V_{I(on)}$ | $V_{CE} = 0.2\text{V}, I_C = 10\text{mA}$ | 1.0 | 2.5 | 5.0 | V |
| Input Resistance | R_1 | | 32 | 47 | 62 | k Ω |
| Input Resistance Ratio | R_1/R_2 | | 0.9 | 1.0 | 1.1 | |

