



DTA124E

PNP EPITAXIAL SILICON TRANSISTOR

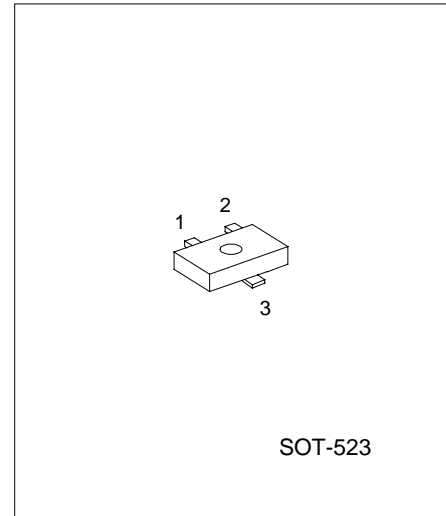
PNP DIGITAL TRANSISTOR (BUILT-IN RESISTORS)

■ FEATURES

*Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see the equivalent circuit).

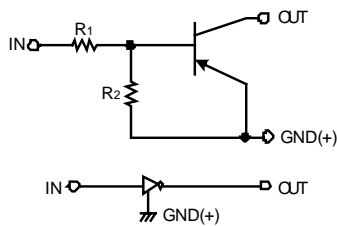
*The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.

*Only the on / off conditions need to be set for operation, making device design easy.

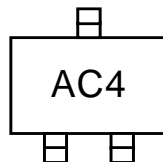


SOT-523

■ EQUIVALENT CIRCUIT



■ MARKING



*Pb-free plating product number:DTA124EL

■ PIN CONFIGURATION

| PIN NO. | PIN NAME |
|---------|----------|
| 1 | GND |
| 2 | IN |
| 3 | OUT |

■ ORDERING INFORMATION

| Order Number | | Package | Packing |
|---------------|----------------|---------|-----------|
| Normal | Lead free | | |
| DTA124E-AN3-R | DTA124EL-AN3-R | SOT-523 | Tape Reel |

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|----------------------|------------------|------------|------|
| Supply Voltage | V _{CC} | -50 | V |
| Input Voltage | V _{IN} | -40 ~ +10 | V |
| Output Current | I _C | -100 | mA |
| | I _O | -30 | |
| Power Dissipation | P _D | 150 | mW |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{STG} | -40 ~ +150 | °C |

■ ELECTRICAL CHARACTERISTICS (Ta= 25°C, unless otherwise specified.)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|----------------------|--------------------------------|---|------|------|-------|------|
| Input Voltage | V _{I(off)} | V _{CC} = -5V, I _{OUT} = -100 μA | | | -0.5 | V |
| | V _{I(ON)} | V _{OUT} = -0.2V, I _{OUT} = -5mA | -3 | | | |
| Output Voltage | V _{O(ON)} | I _{OUT} /I _{IN} = -10mA / -0.5 mA | | -0.1 | -0.3 | V |
| Input Current | I _I | V _{IN} = -5V | | | -0.36 | mA |
| Output Current | I _{O(off)} | V _{CC} = -50V, V _{IN} =0V | | | -0.5 | μA |
| DC Current Gain | G _I | V _{OUT} = -5V, I _{OUT} = -5mA | 56 | | | |
| Input Resistance | R _I | | 15.4 | 22 | 28.6 | kΩ |
| Resistance Ratio | R ₂ /R ₁ | | 0.8 | 1 | 1.2 | |
| Transition Frequency | f _T | V _{CE} = -10 V, I _E = 5mA, f=100MHz * | | 250 | | MHz |

*Transition frequency of the device

■ TYPICAL CHARACTERISTICS

Fig.1 Input voltage vs. output current (ON characteristics)

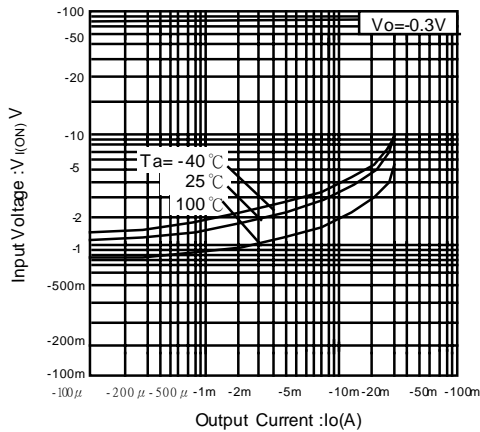


Fig.2 Output current vs Input voltage (OFF characteristics)

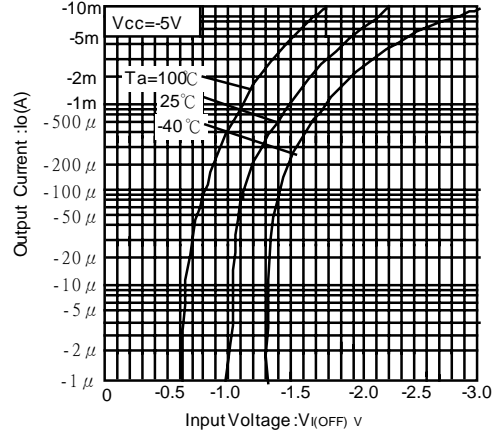


Fig.3 DC current gain vs. output current

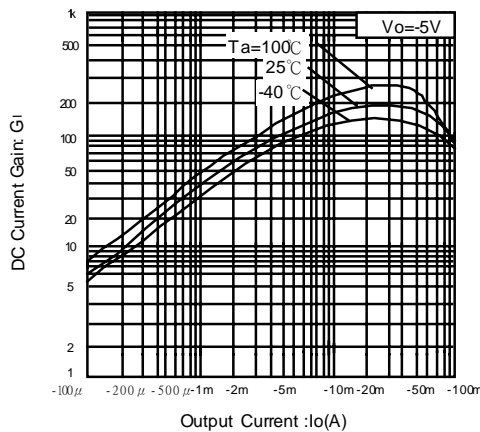
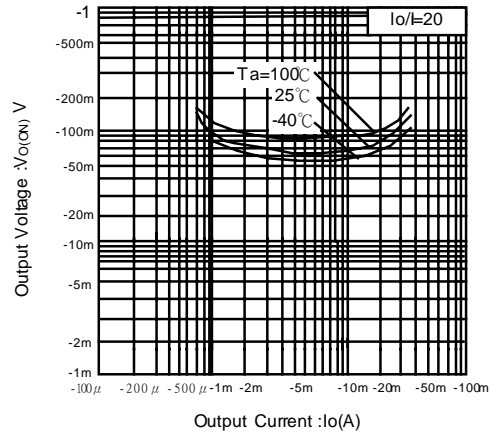


Fig.4 Output voltage vs. output current



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