



Micro Commercial Components

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 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

DTA144EE

PNP Digital Transistors

Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- The bias resistors consist of thin-film resistors with complete isolation to allow negative 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

Absolute maximum ratings @ 25°C

| Symbol | Parameter | Min | Typ | Max | Unit |
|-----------------------|----------------------|-----|-------------|-----|------|
| V_{CC} | Supply voltage | --- | -50 | --- | V |
| V_{IN} | Input voltage | -40 | --- | 10 | V |
| I_o $I_{C(MAX)}$ | Output current | --- | -30 -100 | --- | mA |
| P_d | Power dissipation | --- | 150 | --- | mW |
| T_j | Junction temperature | --- | 150 | --- | °C |
| T_{stg} | Storage temperature | -55 | --- | 150 | °C |

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

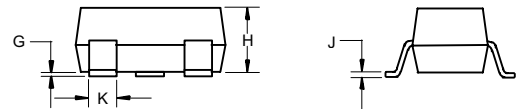
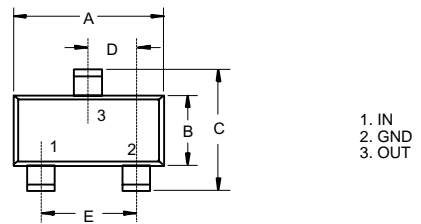
Electrical Characteristics @ 25°C

| Symbol | Parameter | Min | Typ | Max | Unit |
|--------------|---|------|-----|-------|------------|
| $V_{I(off)}$ | Input voltage ($V_{CC}=-5V, I_o=-100 \mu A$) | --- | --- | -0.5 | V |
| $V_{I(on)}$ | ($V_o=0.3V, I_o=-2mA$) | -3.0 | --- | --- | V |
| $V_{O(on)}$ | Output voltage ($I_o/I_i=-10mA/-0.5mA$) | --- | --- | -0.3 | V |
| I_i | Input current ($V_i=-5V$) | --- | --- | -0.18 | mA |
| $I_{O(off)}$ | Output current ($V_{CC}=-50V, V_i=0$) | --- | --- | -0.5 | μA |
| G_1 | DC current gain ($V_o=-5V, I_o=-5mA$) | 68 | --- | --- | |
| R_1 | Input resistance | 32.9 | 47 | 61.1 | $K \Omega$ |
| R_2/R_1 | Resistance ratio | 0.8 | 1.0 | 1.2 | |
| f_T | Transition frequency ($V_{CE}=-10V, I_E=5mA, f=100MHz$) | --- | 250 | --- | MHz |

Equivalent circuit



SOT-523



| DIM | DIMENSIONS | | | | NOTE |
|-----|--------------|------|--------------|------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | .059 | .067 | 1.50 | 1.70 | |
| B | .030 | .033 | 0.75 | 0.85 | |
| C | .057 | .069 | 1.45 | 1.75 | |
| D | .020 Nominal | | 0.50 Nominal | | |
| E | .035 | .043 | 0.90 | 1.10 | |
| G | .000 | .004 | .000 | .100 | |
| H | .028 | .031 | .70 | 0.80 | |
| J | .004 | .008 | .100 | .200 | |
| K | .010 | .014 | .25 | .35 | |

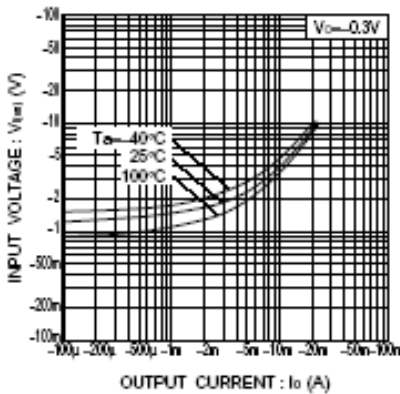


Fig.1 Input voltage vs. output current (ON characteristics)

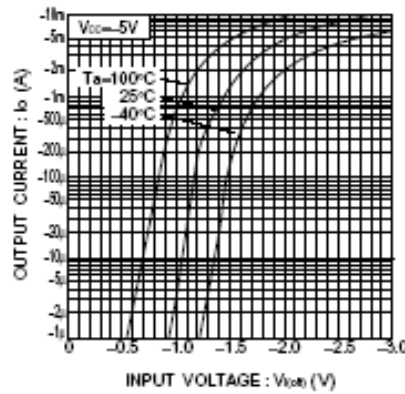


Fig.2 Output current vs. input voltage (OFF characteristics)

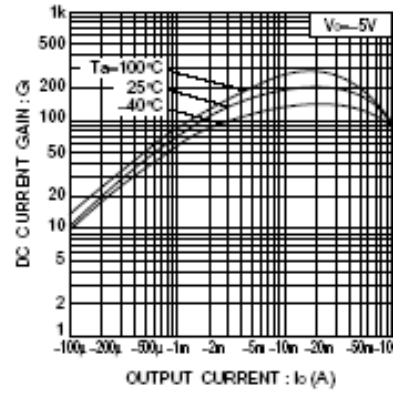


Fig.3 DC current gain vs. output current

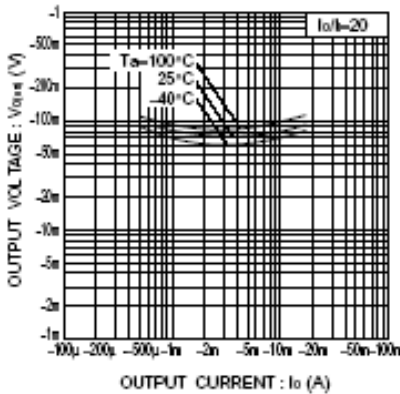


Fig.4 Output voltage vs. output current



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Ordering Information

| | |
|----------------------------|---------------------------------|
| Device (Part Number)-TP | Packing Tape&Reel;3Kpcs/Reel |
|----------------------------|---------------------------------|

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