



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components

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DTC143XCA

Digital Transistors

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epitaxial Planar Die Construction
- Complementary PNP Types Available
- Built-In Biasing Resistors
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: 43
- Halogen free available upon request by adding suffix "-HF"

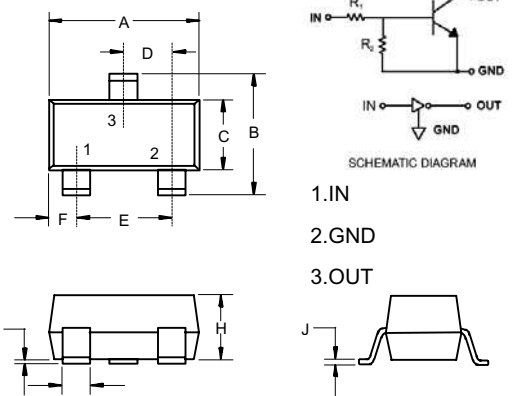
Absolute maximum ratings @ 25°C

| Symbol | Parameter | Min | Typ | Max | Unit |
|-----------|----------------------|-----|-----|-----|------|
| I_C | Collector current | --- | 100 | --- | mA |
| V_{IN} | Input voltage | -7 | --- | +20 | V |
| P_d | Power dissipation | --- | 200 | --- | mW |
| T_j | Junction temperature | --- | 150 | --- | °C |
| T_{stg} | Storage temperature | -55 | --- | 150 | °C |

Electrical Characteristics @ 25°C

| Symbol | Parameter | Min | Typ | Max | Unit |
|--------------|--|------|-----|------|------------|
| $V_{I(off)}$ | Input voltage ($V_{CC}=5V, I_o=100 \mu A$) | --- | --- | 0.3 | V |
| $V_{I(on)}$ | Input voltage ($V_o=0.3V, I_o=20mA$) | 2.5 | --- | --- | V |
| $V_{O(on)}$ | Output voltage ($I_o=10mA, I_i=0.5mA$) | --- | 0.1 | 0.3 | V |
| I_i | Input current ($V_i=5V$) | --- | --- | 1.8 | mA |
| $I_{O(off)}$ | Output current ($V_{CC}=50V, V_i=0$) | --- | --- | 0.5 | μA |
| G_1 | DC current gain ($V_o=5V, I_o=10mA$) | 30 | --- | --- | |
| R_1 | Input resistance | 3.29 | 4.7 | 6.11 | K Ω |
| R_2/R_1 | Resistance ratio | 1.7 | 2.1 | 2.6 | |
| f_T | Transition frequency ($V_{CE}=10V, I_E=5mA, f=100MHz$) | --- | 250 | --- | MHz |

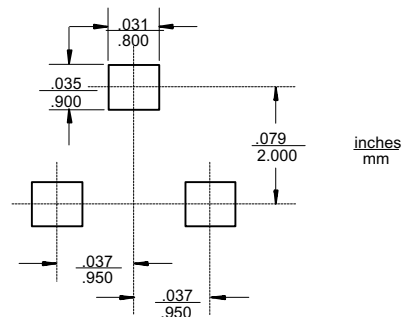
SOT-23



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .110 | .120 | 2.80 | 3.04 | |
| B | .083 | .104 | 2.10 | 2.64 | |
| C | .047 | .055 | 1.20 | 1.40 | |
| D | .035 | .041 | .89 | 1.03 | |
| E | .070 | .081 | 1.78 | 2.05 | |
| F | .018 | .024 | .45 | .60 | |
| G | .0005 | .0039 | .013 | .100 | |
| H | .035 | .044 | .89 | 1.12 | |
| J | .003 | .007 | .085 | .180 | |
| K | .015 | .020 | .37 | .51 | |

Suggested Solder Pad Layout



DTC143XCA

Typical Characteristics

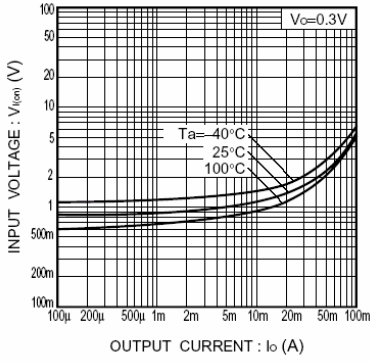


Fig.1 Input voltage vs. output current (ON characteristics)

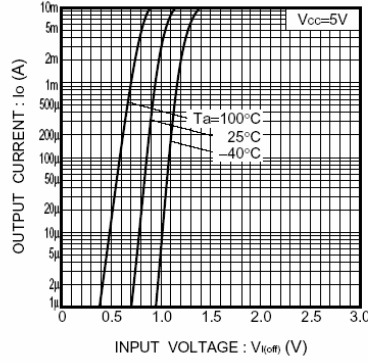


Fig.2 Output current vs. input voltage (OFF characteristics)

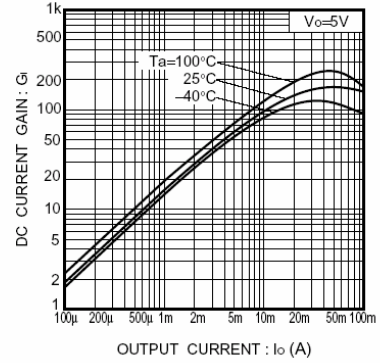


Fig.3 DC current gain vs. output current

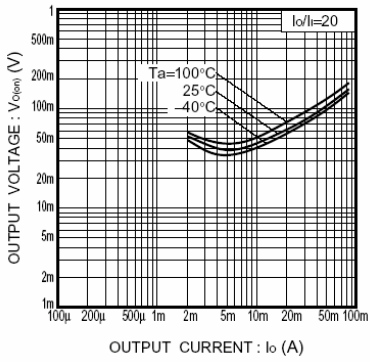


Fig.4 Output voltage vs. output current



Micro Commercial Components

Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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