

**Micro Commercial Components** 



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### **Features**

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit)
- 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**

| Parameter                    | Symbol           | Value   | Unit |
|------------------------------|------------------|---------|------|
| Collector-Base Voltage       | V <sub>CBO</sub> | 50      | V    |
| Collector-Emitter Voltage    | V <sub>CEO</sub> | 50      | V    |
| Emitter-Base voltage         | V <sub>EBO</sub> | 5       | V    |
| Collector Current-Continuous | Ιc               | 100     | mA   |
| Collector Dissipation        | Pc               | 150     | mW   |
| Junction Temperature         | TJ               | 150     | °C   |
| Storage Temperature Range    | T <sub>STG</sub> | -55~150 | °C   |

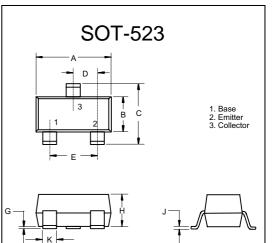
#### **Electrical Characteristics**

| Sym                  | Parameter  | Min  | Тур | Max  | Unit |
|----------------------|--|------|-----|------|------|
| V <sub>(BR)CBO</sub> | Collector-Base Breakdown Voltage<br>(I <sub>c</sub> =50uA, I <sub>E</sub> =0)    | 50   |     |      | V    |
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage $(I_c=1mA, I_B=0)$                           | 50   |     |      | V    |
| $V_{(BR)EBO}$        | Emitter-Base Breakdown Voltage<br>(I <sub>E</sub> =50uA, I <sub>C</sub> =0)      | 5    |     |      | V    |
| I <sub>CBO</sub>     | Collector Cut-off Current<br>(V <sub>CB</sub> =50V, I <sub>E</sub> =0)           |      |     | 0.5  | uA   |
| $I_{\text{EBO}}$     | Emitter Cut-off Current<br>(V <sub>EB</sub> =4V, I <sub>C</sub> =0)              |      |     | 0.5  | uA   |
| $\mathbf{h}_{FE}$    | DC Current Gain<br>(V <sub>CE</sub> =5V, I <sub>C</sub> =1mA)                    | 100  | 300 | 600  | -    |
| $V_{\text{CE(sat)}}$ | Collector-Emitter Saturation Voltage (I <sub>C</sub> =10mA, I <sub>B</sub> =1mA) |      |     | 0.3  | V    |
| R <sub>1</sub>       | Input resistance   | 32.9 | 47  | 61.1 | KΩ   |
| f⊤                   | Transition Frequency<br>(V <sub>CE</sub> =10V, I <sub>C</sub> =-5mA, f=100MHz)   |      | 250 |      | MHz  |

#### \*Marking: 06

## DTC144TE

### **NPN Digital Transistor**



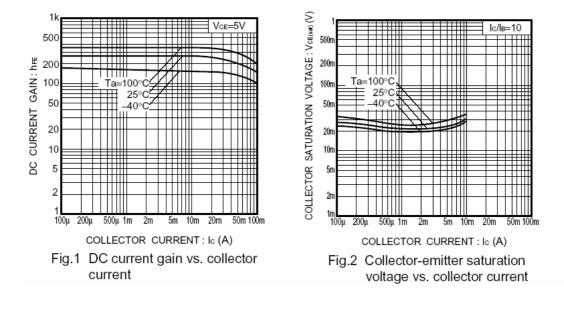
| DIMENSIONS |              |      |             |      |      |  |
|------------|--------------|------|-------------|------|------|--|
|            | INCHES       |      | ММ          |      |      |  |
| DIM        | MIN          | MAX  | MIN         | MAX  | NOTE |  |
| Α          | .059         | .067 | 1.50        | 1.70 |      |  |
| В          | .030         | .033 | 0.75        | 0.85 |      |  |
| С          | .057         | .069 | 1.45        | 1.75 |      |  |
| D          | .020 Nominal |      | 0.50Nominal |      |      |  |
| E          | .035         | .043 | 0.90        | 1.10 |      |  |
| G          | .000         | .004 | .000        | .100 |      |  |
| Н          | .028         | .031 | .70         | 0.80 |      |  |
| J          | .004         | .008 | .100        | .200 |      |  |
| V          | 010          | 014  | 25          | 25   |      |  |

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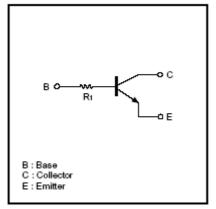
## DTC144TE



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#### Equivalent circuit



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### **Ordering Information :**

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

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