

# M.C.C.

Micro Commercial Components



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## DTC114YCA

## Digital Transistors

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epitaxial Planar Die Construction
- Complementary NPN Types Available
- Built-In Biasing Resistors
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: 64
- Halogen free available upon request by adding suffix "-HF"

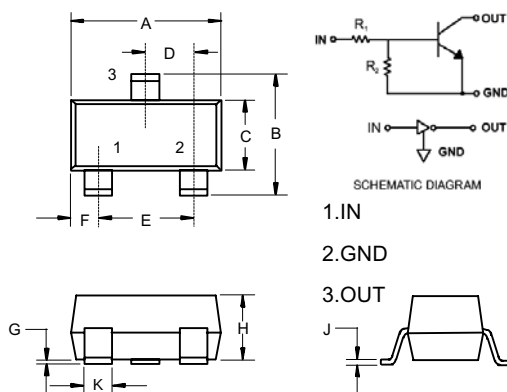
### Absolute maximum ratings @ 25°C

| Symbol    | Parameter            | Min | Typ | Max | Unit |
|-----------|----------------------|-----|-----|-----|------|
| $I_C$     | Collector current    | --- | 100 | --- | mA   |
| $V_{IN}$  | Input voltage        | -6  | --- | +40 | V    |
| $P_d$     | Power dissipation    | --- | 200 | --- | mW   |
| $T_J$     | Junction temperature | --- | 150 | --- | °C   |
| $T_{stg}$ | Storage temperature  | -55 | --- | 150 | °C   |

### Electrical Characteristics @ 25°C

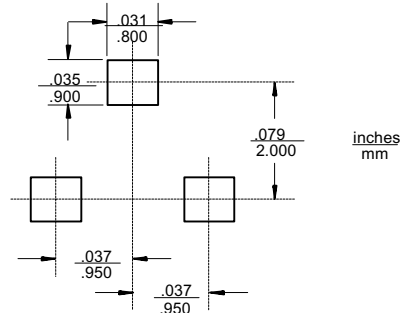
| Symbol       | Parameter                                                      | Min | Typ | Max  | Unit       |
|--------------|----------------------------------------------------------------|-----|-----|------|------------|
| $V_{I(off)}$ | Input voltage ( $V_{CC}=5V$ , $I_O=100\mu A$ )                 | --- | --- | 0.3  | V          |
| $V_{I(on)}$  | Input voltage ( $V_O=0.3V$ , $I_O=1mA$ )                       | 1.4 | --- | ---  | V          |
| $V_{O(on)}$  | Output voltage ( $I_O=5mA$ , $I_i=0.25mA$ )                    | --- | --- | 0.3  | V          |
| $I_i$        | Input current ( $V_i=5V$ )                                     | --- | --- | 0.88 | mA         |
| $I_{O(off)}$ | Output current ( $V_{CC}=50V$ , $V_i=0$ )                      | --- | --- | 0.5  | $\mu A$    |
| $G_i$        | DC current gain ( $V_O=5V$ , $I_O=5mA$ )                       | 68  | --- | ---  | ---        |
| $R_1$        | Input resistance                                               | 7   | 10  | 13   | K $\Omega$ |
| $R_2/R_1$    | Resistance ratio                                               | 3.7 | 4.7 | 5.7  | ---        |
| $f_T$        | 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



## Ordering Information :

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

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

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