

**M·C·C·**

Micro Commercial Components



Micro Commercial Components  
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## Features

- Halogen free available upon request by adding suffix "-HF"
- Two DTC114E Chips in SOT-363 Package.
- Transistor elements are independent, eliminating interference
- Design For Saving Space and Cost.
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

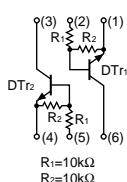
### Absolute maximum ratings @ 25°C

| Symbol       | Parameter            | Value      | Unit |
|--------------|----------------------|------------|------|
| $V_{CC}$     | Supply voltage       | 50         | V    |
| $V_{IN}$     | Input voltage        | -10~40     | V    |
| $I_O$        | Output current       | 50         | mA   |
| $I_{C(MAX)}$ | Collector Current    | 100        | mA   |
| $P_d$        | Power dissipation    | 150(Total) | mW   |
| $T_J$        | Junction temperature | 150        | °C   |
| $T_{stg}$    | Storage temperature  | -55~150    | °C   |

### Electrical Characteristics @ 25°C

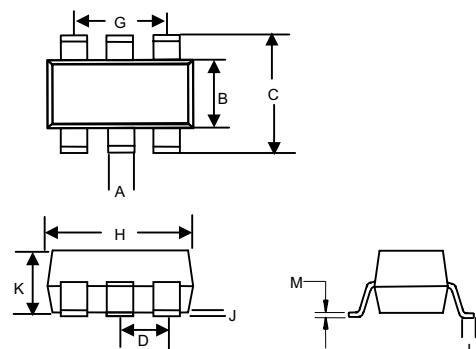
| Symbol       | Parameter   | Min | Typ | Max  | Unit |
|--------------|---|-----|-----|------|------|
| $V_{(off)}$  | Input voltage ( $V_{CC}=5V$ , $I_O=100\mu A$ )                  | --- | --- | 0.5  | V    |
|              | ( $V_O=0.3V$ , $I_O=10mA$ )                                     | 3.0 | --- | ---  | V    |
| $V_{O(on)}$  | Output voltage ( $I_O/I_I=10mA/0.5mA$ )                         | --- | --- | 0.3  | V    |
| $I_I$        | Input current ( $V_I=5V$ )                                      | --- | --- | 0.88 | mA   |
| $I_{O(off)}$ | Output current ( $V_{CC}=50V$ , $V_I=0$ )                       | --- | --- | 0.5  | μA   |
| $G_I$        | DC current gain ( $V_O=5V$ , $I_O=5mA$ )                        | 30  | --- | ---  |      |
| $R_I$        | Input resistance  | 7   | 10  | 13   | KΩ   |
| $R_2/R_1$    | Resistance ratio  | 0.8 | 1.0 | 1.2  |      |
| $f_T$        | Transition frequency ( $V_{CE}=10V$ , $I_E=-5mA$ , $f=100MHz$ ) | --- | 250 | ---  | MHz  |

### Equivalent circuit

**Marking :H11****UMH11N**

## Digital Transistors

### SOT-363



| DIM | INCHES |      | MM          |      | NOTE |
|-----|--------|------|-------------|------|------|
|     | MIN    | MAX  | MIN         | MAX  |      |
| A   | .006   | .014 | 0.15        | 0.35 |      |
| B   | .045   | .053 | 1.15        | 1.35 |      |
| C   | .085   | .096 | 2.15        | 2.45 |      |
| D   | .026   |      | 0.65Nominal |      |      |
| G   | .047   | .055 | 1.20        | 1.40 |      |
| H   | .071   | .087 | 1.80        | 2.20 |      |
| J   | ---    | .004 | ---         | 0.10 |      |
| K   | .035   | .043 | 0.90        | 1.10 |      |
| L   | .010   | .018 | 0.26        | 0.46 |      |
| M   | .003   | .006 | 0.08        | 0.15 |      |

**www.mccsemi.com**

# UMH11N

## Electrical characteristic curves

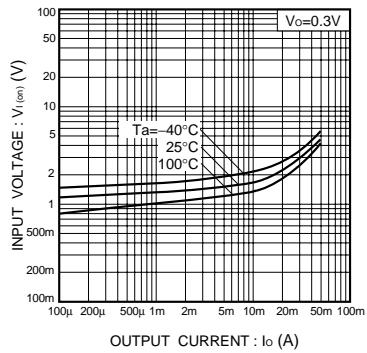


Fig.1 Input voltage vs. output current  
(ON characteristics)

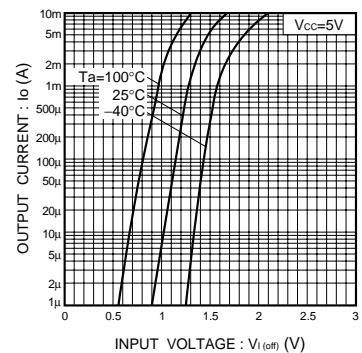


Fig.2 Output current vs. input voltage  
(OFF characteristics)

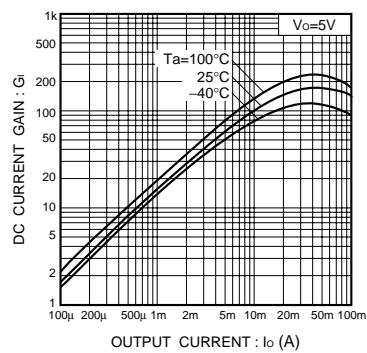


Fig.3 DC current gain vs. output current

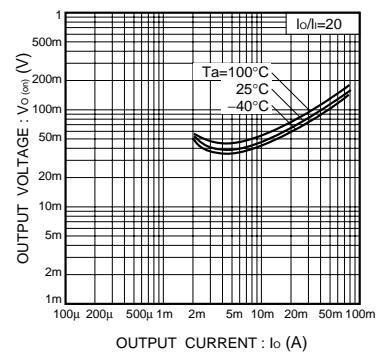


Fig.4 Output voltage vs. output current



TM

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## 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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