

DTC114WE / DTC114WUA / DTC114WKA / DTC114WSA

Transistors

●Absolute maximum ratings (Ta=25°C)

| Parameter | | Symbol | Limits | Unit |
|----------------------|-----------------------|----------------------|-------------|------|
| Supply voltage | | V _{CC} | 50 | V |
| Input voltage | | V _I | −10 to +30 | V |
| Output current | | I _O | 100 | mA |
| | | I _{C(Max.)} | 100 | |
| Power dissipation | DTC114WE | P _d | 150 * | mW |
| | DTC114WUA / DTC114WKA | | 200 * | |
| | DTC114WSA | | 300 * | |
| Junction temperature | | T _j | 150 | °C |
| Storage temperature | | T _{stg} | −55 to +150 | °C |

* Recommended land

●Package, marking, and packaging specifications

| Part No. | DTC114WE | DTC114WUA | DTC114WKA | DTC114WSA |
|------------------------------|----------|-----------|-----------|-----------|
| Package | EMT3 | UMT3 | SMT3 | SPT |
| Marking | 84 | 84 | 84 | C114WS |
| Packaging code | TL | T106 | T146 | TP |
| Basic ordering unit (pieces) | 3000 | 3000 | 3000 | 5000 |

●External characteristics (Unit: mm)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|----------------------|--------------------------------|------|------|------|------|---|
| Input voltage | V _{I(off)} | − | − | 0.8 | V | V _{CC} =5V, I _O =100μA |
| | V _{I(on)} | 3 | − | − | | V _O =0.3V, I _O =2mA |
| Output voltage | V _{O(on)} | − | 0.1 | 0.3 | V | I _O =10mA, I _I =0.5mA |
| Input current | I _I | − | − | 0.88 | mA | V _I =5V |
| Output current | I _{O(off)} | − | − | 0.5 | μA | V _{CC} =50V, V _I =0V |
| DC current gain | G _I | 24 | − | − | − | I _O =10mA, V _O =5V |
| Input resistance | R ₁ | 7 | 10 | 13 | kΩ | − |
| Resistance ratio | R ₂ /R ₁ | 0.37 | 0.47 | 0.57 | − | − |
| Transition frequency | f _T | − | 250 | − | MHz | V _{CE} =10V, I _E = −5mA, f=100MHz * |

* Transition frequency of the device.

●Electrical characteristics curves

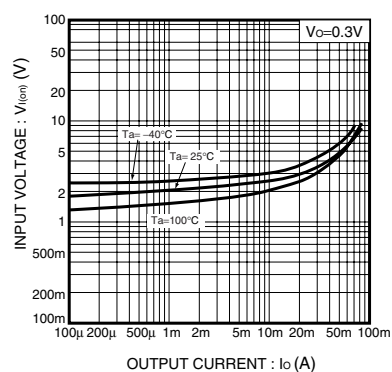


Fig.1 Input voltage vs. Output current (ON characteristics)

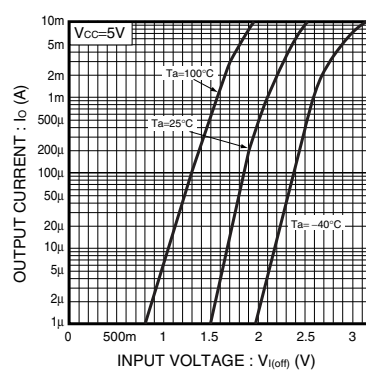


Fig.2 Output current vs. Input voltage (OFF characteristics)

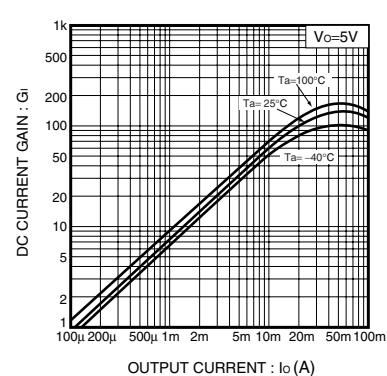


Fig.3 DC current gain vs. Output current

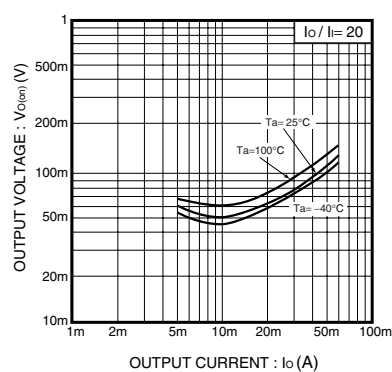


Fig.4 Output voltage vs. Output current

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