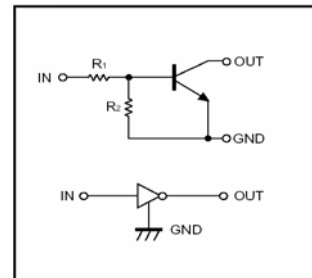


FEATURES

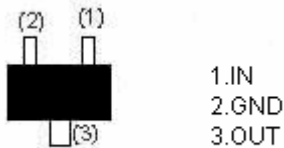
- * Built-in bias resistors enable the configuration of an inverter circuit without connecting input resistors (see equivalent circuit).
- * Only the on/off conditions need to be set for operation, making device design easy.
- * The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.

●Equivalent circuit



PIN CONNECTIONS AND MARKING

DTC114WE

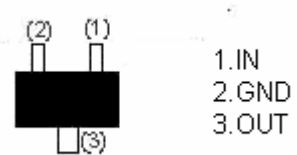


1.IN
2.GND
3.OUT

SOT-523

Abbreviated symbol: 84

DTC114WUA

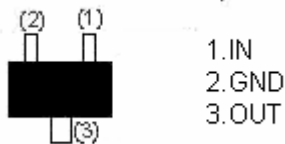


1.IN
2.GND
3.OUT

SOT-323

Abbreviated symbol: 84

DTC114WKA

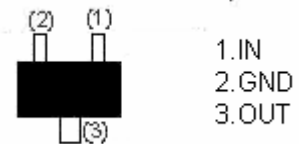


1.IN
2.GND
3.OUT

SOT-23
SOT-23-3L

Abbreviated symbol: 84

DTC114WCA

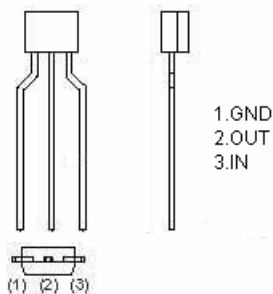


1.IN
2.GND
3.OUT

SOT-23

Abbreviated symbol: 84

DTC114WSA



1.GND
2.OUT
3.IN

TO-92S

Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits (DTC114W) | | | | | Unit |
|----------------------|---------------------|-------------------|----|-----|----|-----|------|
| | | E | UA | CA | KA | SA | |
| Supply voltage | V _{CC} | 50 | | | | | V |
| Input voltage | V _{IN} | -10~30 | | | | | V |
| Output current | I _O | 100 | | | | | mA |
| | I _{C(MAX)} | 100 | | | | | |
| Power dissipation | P _d | 150 | | 200 | | 300 | mW |
| Junction temperature | T _j | 150 | | | | | °C |
| Storage temperature | T _{stg} | -55~150 | | | | | °C |

Electrical characteristics (Ta=25°C)

| 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 =2 mA |
| Output voltage | V _{O(on)} | | 0.1 | 0.3 | V | I _O /I _I =10mA/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 =0 |
| DC current gain | G _I | 24 | | | | V _O =5V, I _O =10mA |
| 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 _O =10V, I _O =5mA, f=100MHz |