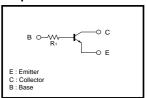
Digital transistors (built in resistor)

DTC115TM / DTC115TE / DTC115TUA / DTC115TKA / DTC115TSA

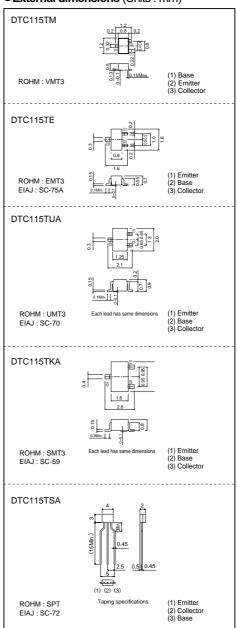
Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
- The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input, and parasitic effects are almost completely eliminated.
- 3) Only the on / off conditions need to be set for operation, making device design easy.
- 4) Higher mounting densities can be achieved.

Equivalent circuit



●External dimensions (Units : mm)



● Absolute maximum ratings (Ta=25°C)

| Parameter | | Symbol | Limits | Unit |
|-----------------------------|-----------------------|--------|----------|------|
| Collector-base voltage | | Vсво | 50 | V |
| Collector-emitter voltage | | VCEO | 50 | V |
| Emitter-base voltage | | VEBO | 5 | V |
| Collector current | | Ic | 100 | mA |
| Collector power dissipation | DTC115TM / DTC115TE | | 150 | mW |
| | DTC115TUA / DTC115TKA | Pc | 200 | |
| | DTC115TSA | | 300 | |
| Junction temperature | | Tj | 150 | °C |
| Storage temperature | | Tstg | -55~+150 | °C |

Packaging, marking, and packaging specifications

| Part No. | DTC115TM | DTC115TE | DTC115TUA | DTC115TKA | DTC115TSA |
|------------------------------|----------|----------|-----------|-----------|-----------|
| Package | VMT3 | EMT3 | UMT3 | SMT3 | SPT |
| Marking | 09 | 09 | 09 | 09 | - |
| Packaging code | T2L | TL | T106 | T146 | TP |
| Basic ordering unit (pieces) | 8000 | 3000 | 3000 | 3000 | 5000 |

● Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Conditions |
|--------------------------------------|----------------|------|------|------|------|------------------------------|
| Collector-base breakdown voltage | ВУсво | 50 | - | - | V | Ic=50μA |
| Collector-emitter breakdown voltage | BVceo | 50 | - | - | V | Ic=1mA |
| Emitter-base breakdown voltage | ВVево | 5 | - | - | V | Iε=50μA |
| Collector cutoff current | Ісво | - | - | 0.5 | μА | Vcb=50V |
| Emitter cutoff current | Ієво | - | - | 0.5 | μА | V _{EB} =4V |
| Collector-emitter saturation voltage | VCE(sat) | - | - | 0.3 | V | Ic/Iв=1mA/0.1mA |
| DC current transfer ratio | hfe | 100 | 250 | 600 | - | Ic=1mA, VcE=5V |
| Input resistance | R ₁ | 70 | 100 | 130 | kΩ | - |
| Transition frequency | f⊤ | - | 250 | - | MHz | Vce=10V, Ie=-5mA, f=100MHz * |

^{*} Transition frequency of the device

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