

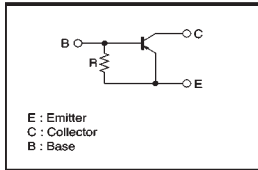
Digital transistors (built-in resistor)

DTA144GUA / DTA144GKA

●Features

- 1) The built-in bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input, and parasitic effects are almost completely eliminated.
- 2) Only the on / off conditions need to be set for operation, making device design easy.
- 3) Higher mounting densities can be achieved.

●Circuit schematic



●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|----------------------|------|------|------|------|--|
| Collector-base breakdown voltage | BV _{CB0} | -50 | — | — | V | I _C =-50 μA |
| Collector-emitter breakdown voltage | BV _{CE0} | -50 | — | — | V | I _C =-1mA |
| Emitter-base breakdown voltage | BV _{EB0} | -5 | — | — | V | I _E =-160 μA |
| Collector cutoff current | I _{CB0} | — | — | -0.5 | μA | V _{CB} =-50V |
| Emitter cutoff current | I _{EB0} | -65 | — | -130 | μA | V _{EB} =-4V |
| Collector-emitter saturation voltage | V _{CE(sat)} | — | — | -0.3 | V | I _C =-10mA, I _E =-0.5mA |
| DC current transfer ratio | h _{FE} | 68 | — | — | — | I _C =-5mA, V _{CE} =-5V |
| Emitter-base resistance | R | 32.9 | 47 | 61.1 | kΩ | — |
| Transition frequency | f _T | — | 250 | — | MHz | V _{CE} =-10V, I _E =5mA, f=100MHz * |

* Transition frequency of the device.

(94S-570-A144G)

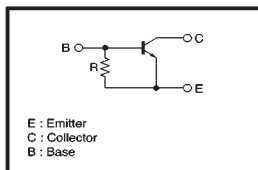
Digital transistors (built-in resistor)

DTC144GE / DTC144GUA / DTC144GKA / DTC144GSA

●Features

- 1) The built-in bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input, and parasitic effects are almost completely eliminated.
- 2) Only the on / off conditions need to be set for operation, making device design easy.
- 3) Higher mounting densities can be achieved.

●Circuit schematic



●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|----------------------|------|------|------|------|---|
| Collector-base breakdown voltage | BV _{CB0} | 50 | — | — | V | I _C =50 μA |
| Collector-emitter breakdown voltage | BV _{CE0} | 50 | — | — | V | I _C =1mA |
| Emitter-base breakdown voltage | BV _{EB0} | 5 | — | — | V | I _E =160 μA |
| Collector cutoff current | I _{CB0} | — | — | 0.5 | μA | V _{CB} =50V |
| Emitter cutoff current | I _{EB0} | 65 | — | 130 | μA | V _{EB} =4V |
| Collector-emitter saturation voltage | V _{CE(sat)} | — | — | 0.3 | V | I _C =10mA, I _E =0.5mA |
| DC current transfer ratio | h _{FE} | 68 | — | — | — | I _C =5mA, V _{CE} =5V |
| Emitter-base resistance | R | 32.9 | 47 | 61.1 | kΩ | — |
| Transition frequency | f _T | — | 250 | — | MHz | V _{CE} =10V, I _E =5mA, f=100MHz * |

* Transition frequency of the device.

(94S-692-C144G)

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|------------------|----------|------|
| Collector-base voltage | V _{CB0} | -50 | V |
| Collector-emitter voltage | V _{CE0} | -50 | V |
| Emitter-base voltage | V _{EB0} | -5 | V |
| Collector current | I _C | -100 | mA |
| Collector power dissipation | P _C | 200 | mW |
| Junction temperature | T _J | 150 | °C |
| Storage temperature | T _{stg} | -55~+150 | °C |

●Package, marking, and packaging specifications

| Part No. | DTA144GUA | DTA144GKA |
|------------------------------|-----------|-----------|
| Package | UMT3 | SMT3 |
| Marking | K16 | K16 |
| Packaging code | T106 | T146 |
| Basic ordering unit (pieces) | 3000 | 3000 |

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------------------|----------|------|
| Collector-base voltage | V _{CB0} | 50 | V |
| Collector-emitter voltage | V _{CE0} | 50 | V |
| Emitter-base voltage | V _{EB0} | 5 | V |
| Collector current | I _C | 100 | mA |
| Collector Power dissipation | DTC144GE | 150 | mW |
| | DTC144GUA / DTC144GKA | 200 | |
| | DTC144GSA | 300 | |
| Junction temperature | T _J | 150 | °C |
| Storage temperature | T _{stg} | -55~+150 | °C |

●Package, marking, and packaging specifications

| Part No. | DTC144GE | DTC144GUA | DTC144GKA | DTC144GSA |
|------------------------------|----------|-----------|-----------|-----------|
| Package | EMT3 | UMT3 | SMT3 | SPT |
| Marking | K26 | K26 | K26 | — |
| Packaging code | TL | T106 | T146 | TP |
| Basic ordering unit (pieces) | 3000 | 3000 | 3000 | 5000 |