

General purpose transistors (dual digital transistors)

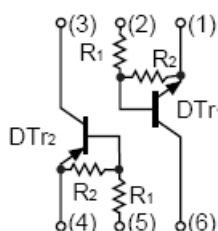
FEATURES

- Both the DTA143X chip and DTC144E chip in a package
- Mounting possible with SOT-363 automatic mounting machines
- Transistor elements are independent, eliminating interference
- Mounting cost and area be cut in half

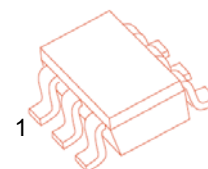
Marking: D5

Equivalent circuit

DTr1
R1/R2=47kΩ / 47kΩ
DTr2
R1/R2=4.7kΩ / 10kΩ



SOT-363



DTr1

Absolute maximum ratings(Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|----------------------|---------------------|---------|------|
| Supply voltage | V _{CC} | 50 | V |
| Input voltage | V _{IN} | -10~+40 | V |
| Output current | I _O | 30 | mA |
| | I _{C(MAX)} | 100 | |
| Power dissipation | P _d | 150 | 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)} | | | 0.5 | V | V _{CC} =5V, I _O =100μA |
| | V _{I(on)} | 3 | | | | V _O =0.3V, I _O =2mA |
| Output voltage | V _{O(on)} | | | 0.3 | V | I _O /I _I =10mA/0.5mA |
| Input current | I _I | | | 0.18 | mA | V _I =5V |
| Output current | I _{O(off)} | | | 0.5 | μA | V _{CC} =50V, V _I =0 |
| DC current gain | G _I | 68 | | | | V _O =5V, I _O =5mA |
| Input resistance | R ₁ | 32.9 | | 61.1 | KΩ | |
| Resistance ratio | R ₂ /R ₁ | 0.8 | 1 | 1.2 | | |
| Transition frequency | f _T | | 250 | | MHz | V _O =10V, I _O =5mA, f=100MHz |

DTr2

Absolute maximum ratings(Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|----------------------|---------------------|---------|------|
| Supply voltage | V _{CC} | -50 | V |
| Input voltage | V _{IN} | -20~+7 | V |
| Output current | I _O | -100 | mA |
| | I _{C(MAX)} | -100 | |
| Power dissipation | P _d | 150 | 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 | $V_{I(off)}$ | | | -0.3 | V | $V_{CC}=-5V, I_O=-100\mu A$ |
| | $V_{I(on)}$ | -2.5 | | | | $V_O=-0.3V, I_O=-20mA$ |
| Output voltage | $V_{O(on)}$ | | | -0.3 | V | $I_O/I_I=-10mA/-0.5mA$ |
| Input current | I_I | | | -1.8 | mA | $V_I=-5V$ |
| Output current | $I_{O(off)}$ | | | -0.5 | μA | $V_{CC}=-50V, V_I=0$ |
| DC current gain | G_I | 30 | | | | $V_O=-5V, I_O=-10mA$ |
| Input resistance | R_I | 3.29 | | 6.11 | K Ω | |
| Resistance ratio | R_2/R_1 | 1.7 | | 2.6 | | |
| Transition frequency | f_T | | 250 | | MHz | $V_O=-10V, I_O=-5mA, f=100MHz$ |