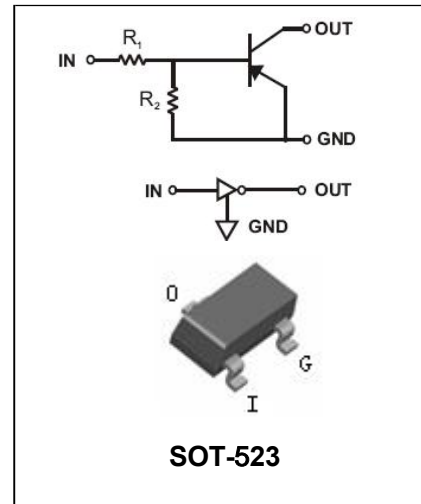


Digital Transistor

DTA(R₁ ≠ R₂ SERIES)E

FEATURES

- Epitaxial planar die construction
- Complementary NPN types available(DTC)
- Built-in biasing resistors, R₁ ≠ R₂
- Also available in lead free version



APPLICATIONS

- The PNP style digital transistor

ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|---------|--------------|
| DTA113ZE | E11 | SOT-523 |
| DTA114WE | 74 | SOT-523 |
| DTA114YE | 54 | SOT-523 |
| DTA123JE | E32 | SOT-523 |
| DTA123YE | 52 | SOT-523 |
| DTA143XE | 33 | SOT-523 |
| DTA143ZE | E13 | SOT-523 |

MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Symbol | Parameter | Value | Units |
|-----------------------|------------------|--------------|--------------|
| V _{CC} | Supply Voltage | -50 | V |
| V _{IN} | Input Voltage | DTA113ZE | +5 to -10 |
| | | DTA114WE | +10 to -30 |
| | | DTA114YE | +6 to -40 |
| | | DTA123JE | +5 to -12 |
| | | DTA123YE | +5 to -12 |
| | | DTA143XE | +7 to -20 |
| | | DTA143ZE | +5 to -30 |
| I _b | Output Current | DTA113ZE | -100 |
| | | DTA114WE | -100 |
| | | DTA114YE | -70 |
| | | DTA123JE | -100 |
| | | DTA123YE | -100 |
| | | DTA143XE | -100 |
| | | DTA143ZE | -100 |
| Symbol | Parameter | Value | Units |
| I _c (Max.) | Output current | ALL | -100 |
| | | | mA |



Digital Transistor

DTA(R₁ ≠ R₂ SERIES)E

| | | | |
|-----------------------------------|---|-------------|------|
| P _D | Power Dissipation | 150 | mW |
| R _{θJA} | Thermal Resistance, Junction to Ambient Air | 306 | °C/W |
| T _j , T _{stg} | Operating and Storage and Temperature Range | -55 to +150 | °C |

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|-----------------|---------------------|--|------|------|-------|------|
| Input Voltage | DTA113ZE | V _{CC} =-5V, I _o =-100μA | -0.3 | | | V |
| | DTA114WE | | -0.8 | | | |
| | DTA114YE | | -0.3 | | | |
| | DTA123JE | | -0.5 | - | - | |
| | DTA123YE | | -0.3 | | | |
| | DTA143XE | | -0.3 | | | |
| | DTA143ZE | | -0.5 | | | |
| Input Voltage | DTA113ZE | V _O =-0.3V, I _o =-20mA | | | -3.0 | V |
| | DTA114WE | V _O =-0.3V, I _o =-2mA | | | -3.0 | |
| | DTA114YE | V _O =-0.3V, I _o =-1mA | | | -1.4 | |
| | DTA123JE | V _O =-0.3V, I _o =-5mA | - | - | -1.1 | |
| | DTA123YE | V _O =-0.3V, I _o =-20mA | | | -3.0 | |
| | DTA143XE | V _O =-0.3V, I _o =-20mA | | | -2.5 | |
| | DTA143ZE | V _O =-0.3V, I _o =-5mA | | | -1.3 | |
| Output Voltage | DTA123JE | I _b /I _i =-5mA/-0.25mA | | | | V |
| | DTA143ZE | | | | | |
| | DTA114YE | | | | | |
| | ALL Others | I _b /I _i =-10mA/-0.5mA | | -0.1 | -0.3 | |
| Input Current | DTA113ZE | V _I =-5V | | | -7.2 | mA |
| | DTA114WE | | | | -0.88 | |
| | DTA114YE | | | | -0.88 | |
| | DTA123JE | | | | -3.6 | |
| | DTA123YE | | | | -3.8 | |
| | DTA143XE | | | | -1.8 | |
| | DTA143ZE | | | | -1.8 | |
| Output Current | I _{o(off)} | V _{CC} =-50V, V _I =0V | - | - | -0.5 | μA |
| DC Current Gain | DTA113ZE | V _O =-5V, I _o =-5mA | 33 | | | |
| | DTA114WE | V _O =-5V, I _o =-10mA | 24 | | | |
| | DTA114YE | V _O =-5V, I _o =-5mA | 68 | | | |
| | DTA123JE | V _O =-5V, I _o =-10mA | 80 | - | - | |
| | DTA123YE | V _O =-5V, I _o =-10mA | 33 | | | |
| | DTA143XE | V _O =-5V, I _o =-10mA | 30 | | | |
| | DTA143ZE | V _O =-5V, I _o =-10mA | 80 | | | |

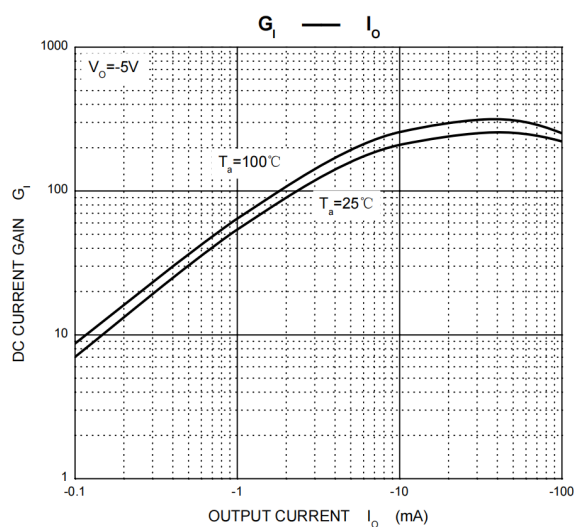
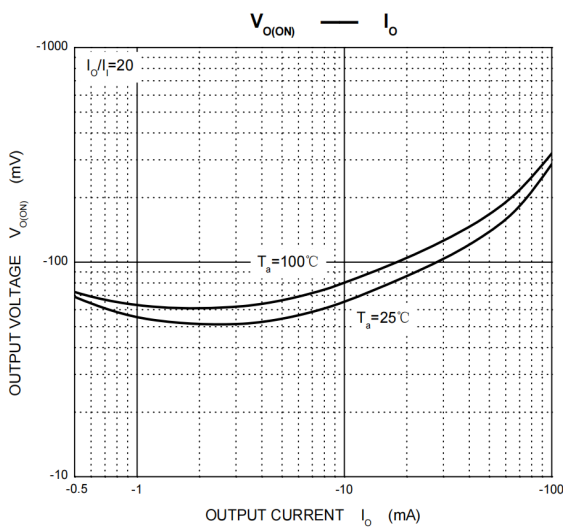
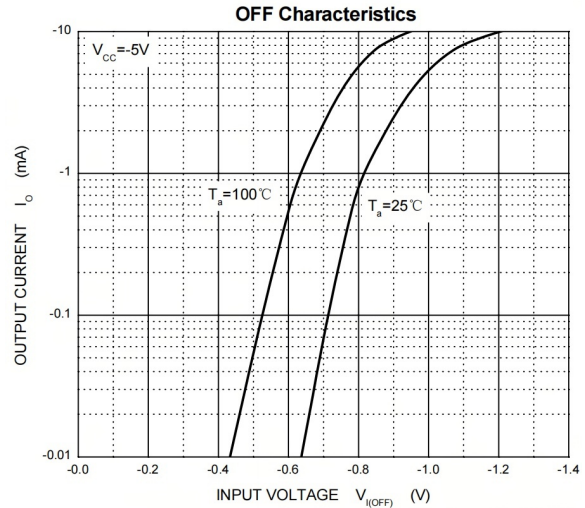
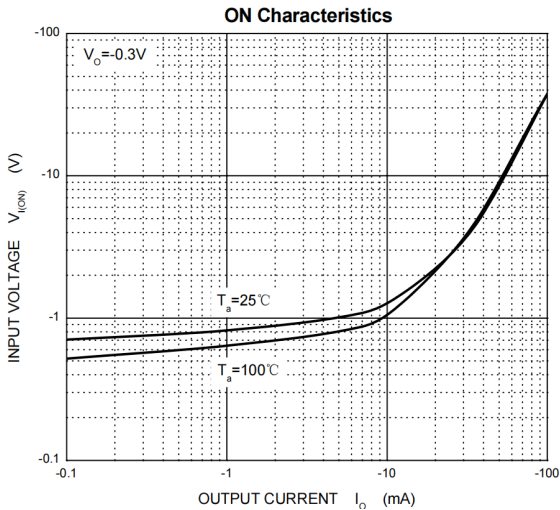


Digital Transistor

DTA(R₁ ≠ R₂ SERIES)E

| | | | | | | | |
|--|--|---|-----|---|--|---|----|
| Input Resistor | DTA113ZE DTA114WE DTA114YE DTA123JE DTA123YE DTA143XE DTA143ZE | R ₁ (R ₂) | | 0.7 7 7 1.54 1.54 3.29 3.29 | 1(10) 10(4.7) 10(47) 2.2(47) 2.2(10) 4.7(10) 4.7(47) | 1.3 13 13 2.86 2.86 6.11 6.11 | kΩ |
| Input Resistor (R ₁) Tolerance | ΔR ₁ | - | -30 | | +30 | % | |
| Resistance Ratio Tolerance | ΔR ₂ /R ₁ | - | -20 | | +20 | % | |
| Transition frequency | f _T | V _O = -10V, I _O = -5mA, f = 100MHz | - | 250 | - | MHz | |

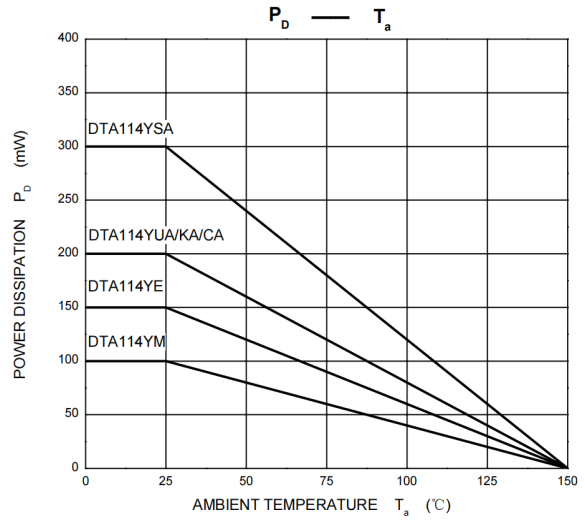
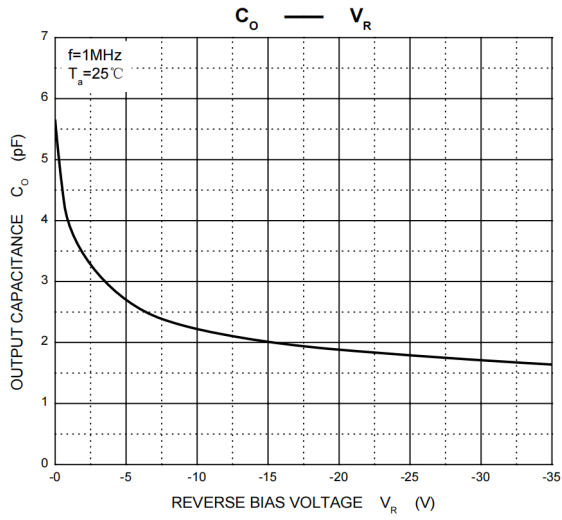
TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified





Digital Transistor

DTA(R₁ ≠ R₂ SERIES)E



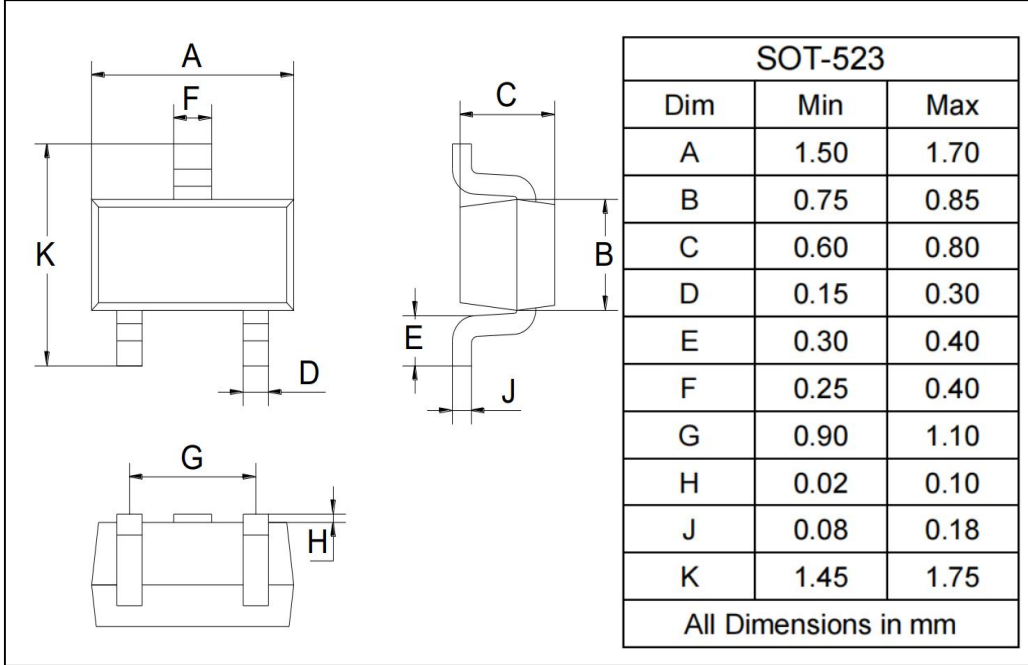
Digital Transistor

DTA(R₁ ≠ R₂ SERIES)E

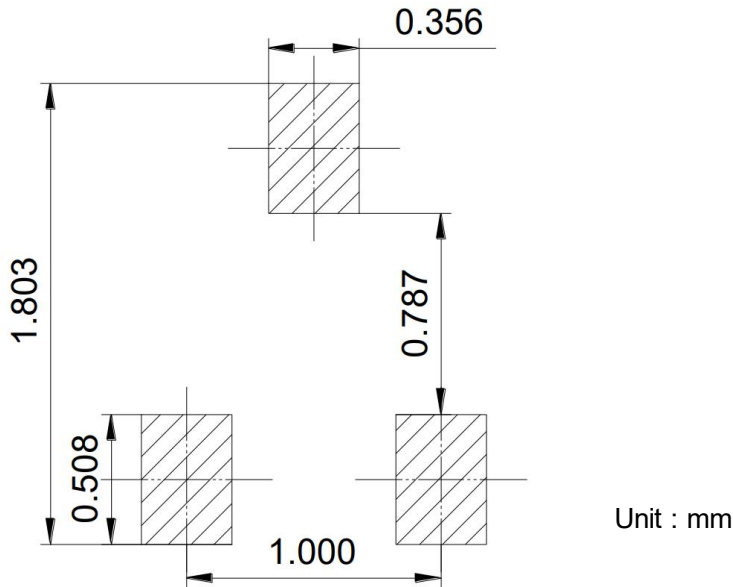
PACKAGE OUTLINE

Plastic surface mounted package

SOT-523



SOLDERING FOOTPRINT



PACKAGE INFORMATION

| Device | Package | Shipping |
|---------|---------|------------------------|
| DTAXXXE | SOT-523 | 3000 pcs / Tape & Reel |