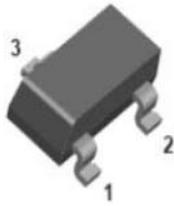
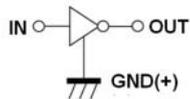
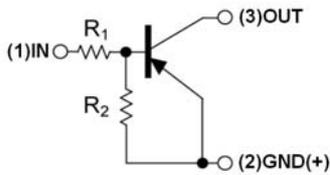


PNP Digital Transistors (Built-in Resistors)



1. IN
2. GND
3. OUT

SOT-323



Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic insertion

Application

- Signal amplification
- Switching circuit

Mechanical Data

- Package: SOT-323
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking: P13

■Maximum Ratings (Ta=25°C Unless otherwise specified)

| ITEM | SYMBOL | UNIT | CONDITIONS | VALUE |
|----------------------|-----------|------|------------|-------------|
| Supply Voltage | V_{CC} | V | | -50 |
| Input Voltage | V_{IN} | V | | -40 to +10 |
| Output Current | I_o | mA | | -500 |
| Power Dissipation | P_D | mW | | 200 |
| Junction Temperature | T_j | °C | | 150 |
| Storage Temperature | T_{STG} | °C | | -55 to +150 |



DDTA114EUA

■ Electrical Characteristics (Ta=25°C unless otherwise specified)

| ITEM | SYMBOL | UNIT | CONDITIONS | MIN | TYP | MAX |
|----------------------|--------------|------------|-----------------------------------|------|-----|-------|
| Input voltage | $V_{I(off)}$ | V | $V_{CC}=-5V, I_c=-100\mu A$ | -0.5 | | |
| | $V_{I(on)}$ | V | $V_o=-0.3V, I_c=-10mA$ | | | -3.0 |
| Output voltage | $V_{O(on)}$ | V | $I_o / I_i = -50mA / -2.5 mA$ | | | -0.3 |
| Input current | I_I | mA | $V_i=-5V$ | | | -0.88 |
| Output current | $I_{O(off)}$ | μA | $V_{CC}=-50V, V_i=0$ | | | -0.5 |
| DC current gain | G_I | | $V_o=-5V, I_o = -50mA$ | 60 | | |
| Input resistance | R_1 | k Ω | | 7 | 10 | 13 |
| Resistance ratio | R_2/R_1 | | | 0.8 | 1.0 | 1.2 |
| Transition frequency | fT | MHz | $V_{CE}=-10V, I_E=50mA, f=100MHz$ | | 200 | |

■ Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| DDTA114EUA | F2 | Approximate 0.005 | 3000 | 30000 | 120000 | 7" reel |

■ Thermal Characteristics

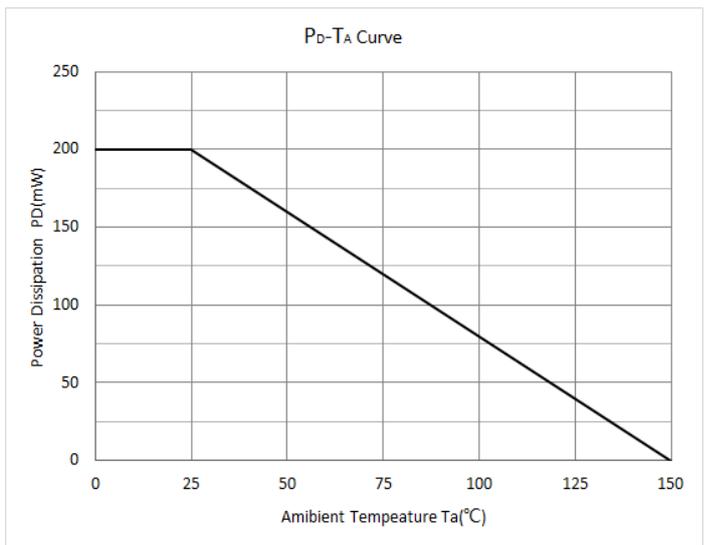
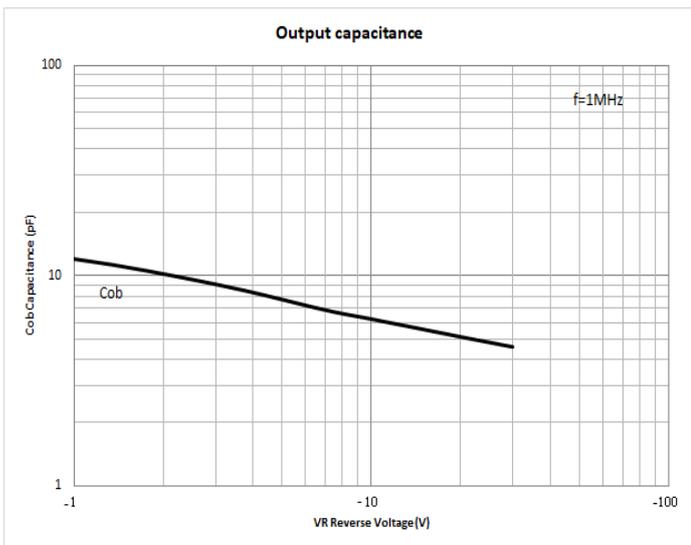
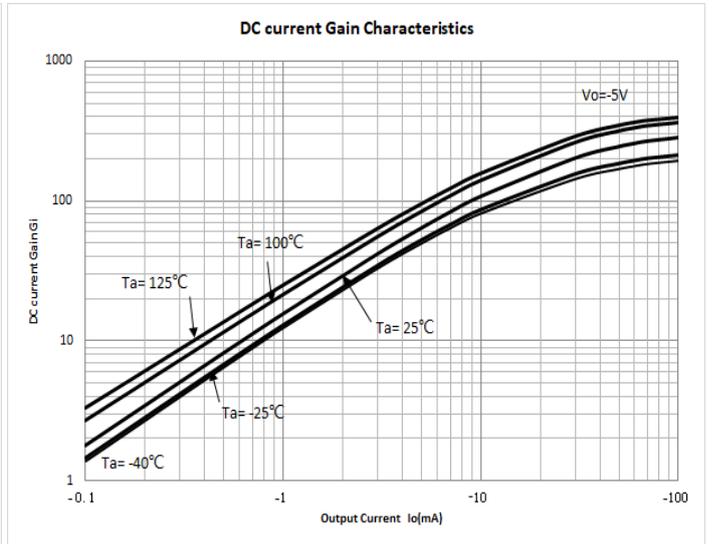
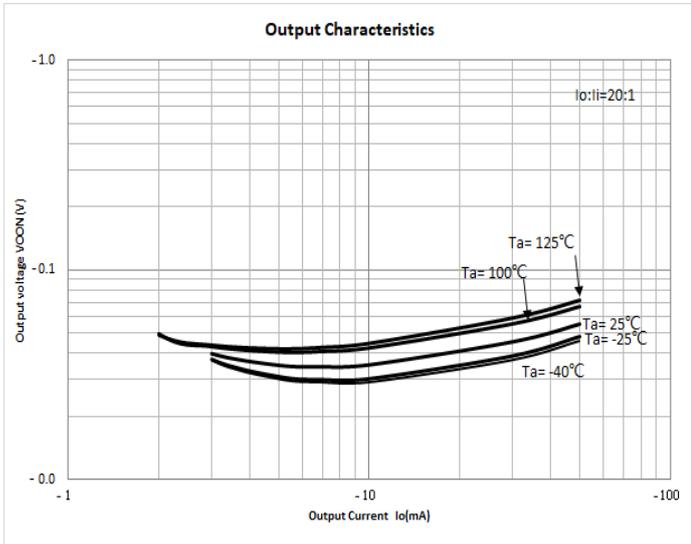
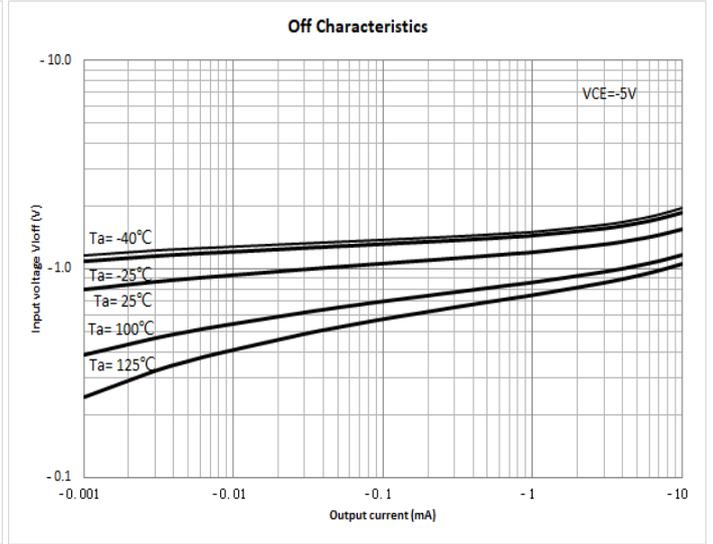
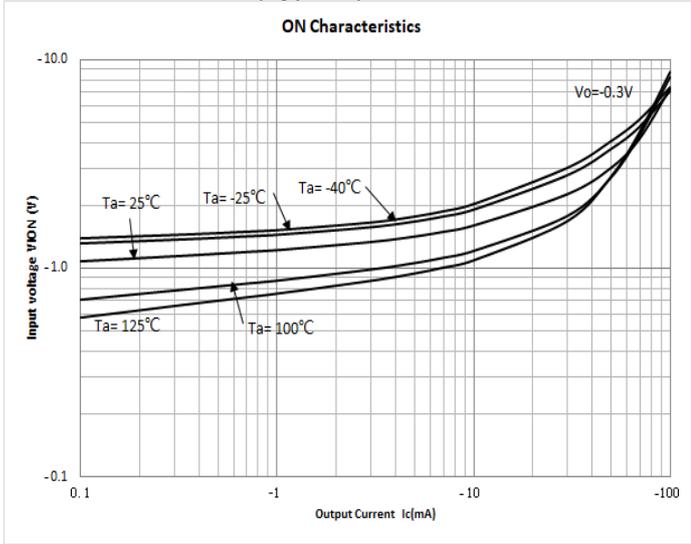
| Parameter | Symbol | Unit | Value |
|-----------------------------------------|--------|------|-------|
| Thermal resistance, junction to ambient | RthJA | °C/W | 625 |
| Thermal resistance, junction to case | RthJC | °C/W | 500 |

Note: (1) Device mounted on PCB, single-sided copper, with stander footprint.



DDTA114EUA

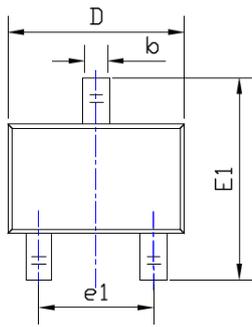
■ Characteristics (Typical)



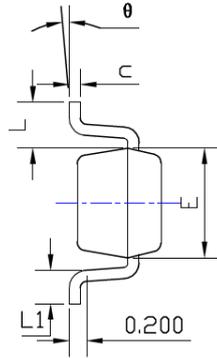


DDTA114EUA

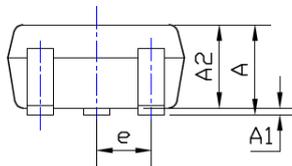
■SOT-323 Package Outline Dimensions



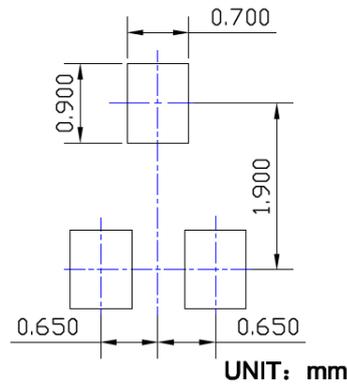
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|------------|-------|
| | INCHES | | Millimeter | |
| | MIN. | MAX. | MIN. | MAX. |
| A | 0.035 | 0.043 | 0.900 | 1.100 |
| A1 | 0.000 | 0.004 | 0.000 | 0.100 |
| A2 | 0.035 | 0.039 | 0.900 | 1.000 |
| b | 0.006 | 0.016 | 0.150 | 0.400 |
| c | 0.004 | 0.010 | 0.100 | 0.250 |
| D | 0.071 | 0.087 | 1.800 | 2.200 |
| E | 0.045 | 0.053 | 1.150 | 1.350 |
| E1 | 0.085 | 0.096 | 2.150 | 2.450 |
| e | 0.026 TYP | | 0.650 TYP | |
| e1 | 0.047 | 0.055 | 1.200 | 1.400 |
| L | 0.021 REF | | 0.525 REF | |
| L1 | 0.010 | 0.018 | 0.260 | 0.460 |
| theta | 0° | 8° | 0° | 8° |

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.

2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.

3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

Note:

- All dimensions are in millimeters (mm) unless otherwise specified.
[所有尺寸均以毫米为单位, 除非另有说明]
- General tolerances: $\pm 0.10\text{mm}$ unless otherwise specified.
[通用公差为 $\pm 0.10\text{mm}$, 除非另有说明]
- Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
- All dimensions shown are exclusive of burrs and gate residues.
Burrs and gate vestiges shall not exceed 0.15 mm in maximum.
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
- Dimension b does not include dambar protrusion of max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
- Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.
[D和E是塑封体的外部极限尺寸, 不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺, 但是包含了包封错位的最大尺寸]
- Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的管脚应为同一平面, 共面性最大为0.1mm]
- ★It is the key size.
[★ 标记为关键尺寸]



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