

## Features

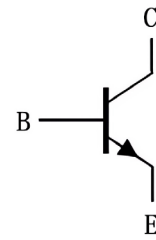
- High Collector Current
- Low Collector-Emitter Saturation Voltage

## Applications

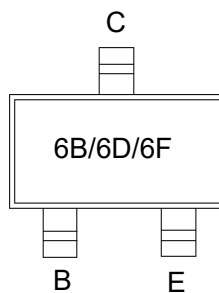
- General Purpose Switching and Amplification



SOT-323 top view



Schematic diagram



Marking and pin assignment



Halogen-Free

## Maximum Ratings (Ta=25°C unless otherwise noted)

| Symbol          | Parameter                                        | Value    | Unit |
|-----------------|--------------------------------------------------|----------|------|
| $V_{CBO}$       | Collector-Base Voltage                           | 60       | V    |
| $V_{CEO}$       | Collector-Emitter Voltage                        | 50       | V    |
| $V_{EBO}$       | Emitter-Base Voltage                             | 6        | V    |
| $I_C$           | Collector Current                                | 100      | mA   |
| $P_C$           | Collector Power Dissipation                      | 200      | mW   |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient      | 625      | °C/W |
| $T_J, T_{stg}$  | Operation Junction and Storage Temperature Range | -55~+150 | °C   |

## Ordering Information (Example)

| Type     | Package | Marking  | Minimum Package(pcs) | Inner Box Quantity(pcs) | Outer Carton Quantity(pcs) | Delivery Mode |
|----------|---------|----------|----------------------|-------------------------|----------------------------|---------------|
| 2PD601AW | SOT-323 | 6D/6E/6F | 3,000                | 45,000                  | 180,000                    | 7" reel       |

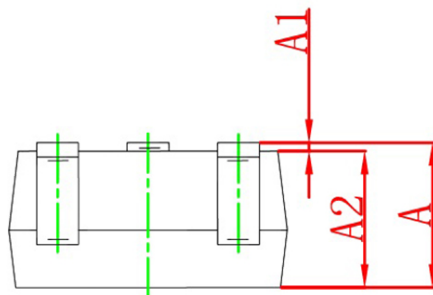
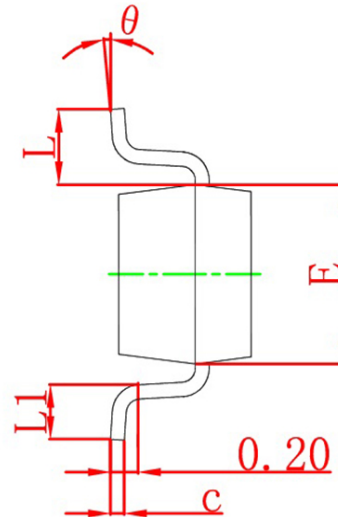
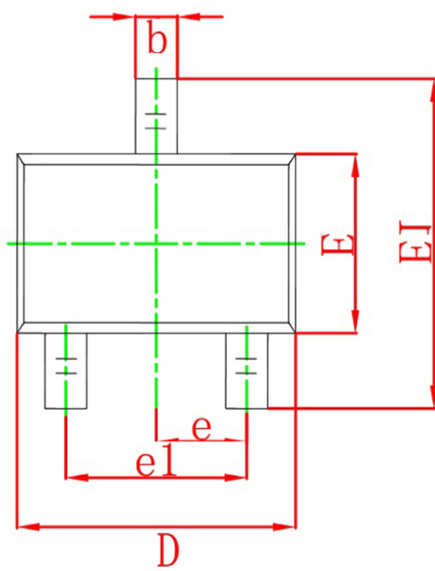
**Electrical Characteristics (Ta=25°C unless otherwise specified)**

| Symbol                 | Parameter                            | Condition                                           |           | Min | Typ | Max |
|------------------------|--------------------------------------|-----------------------------------------------------|-----------|-----|-----|-----|
| V <sub>(BR)CBO</sub>   | Collector-base breakdown voltage     | I <sub>C</sub> =100μA, I <sub>E</sub> =0            |           | 60  | --  | --  |
| V <sub>(BR)CEO</sub>   | Collector-emitter breakdown voltage  | I <sub>C</sub> =1mA, I <sub>B</sub> =0              |           | 50  | --  | --  |
| V <sub>(BR)EBO</sub>   | Emitter-base breakdown voltage       | I <sub>E</sub> =100μA, I <sub>C</sub> =0            |           | 6   | --  | --  |
| I <sub>CBO</sub>       | Collector cut-off current            | V <sub>CB</sub> =60V , I <sub>E</sub> =0            |           | --  | --  | 10  |
| I <sub>EBO</sub>       | Emitter cut-off current              | V <sub>EB</sub> =5V , I <sub>C</sub> =0             |           | --  | --  | 10  |
| H <sub>FE(1)</sub> *   | DC current gain                      | V <sub>CE</sub> =2V, I <sub>C</sub> =100mA          |           | 90  | --  | --  |
| H <sub>FE(2)</sub>     | DC current gain                      | V <sub>CE</sub> =10V, I <sub>C</sub> =2mA           |           | 160 | --  | 460 |
| V <sub>CE(sat)</sub> * | Collector-emitter saturation voltage | I <sub>C</sub> =100mA, I <sub>B</sub> =10mA         |           | --  | --  | 0.5 |
| f <sub>T</sub>         | Transition frequency                 | V <sub>CE</sub> =10V, I <sub>C</sub> =2mA, f=100MHz | 2PD601AQW | 100 | --  | --  |
|                        |                                      |                                                     | 2PD601ARW | 120 | --  | --  |
|                        |                                      |                                                     | 2PD601ASW | 140 | --  | --  |
| C <sub>ob</sub>        | Collector output capacitance         | V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz     |           | --  | --  | 3.5 |

**Classification of hFE**

| Rank    | Q       | R       | S       |
|---------|---------|---------|---------|
| Marking | 6D      | 6E      | 6F      |
| Range   | 160-260 | 210-340 | 290-460 |

**SOT-323 Package information**



| Symbol   | Dimensions in Millimeters(mm) |       | Dimensions In Inches |       |
|----------|-------------------------------|-------|----------------------|-------|
|          | Min                           | Max   | Min                  | Max   |
| A        | 0.900                         | 1.100 | 0.035                | 0.043 |
| A1       | 0.000                         | 0.100 | 0.000                | 0.004 |
| A2       | 0.900                         | 1.000 | 0.035                | 0.039 |
| b        | 0.200                         | 0.400 | 0.008                | 0.016 |
| c        | 0.080                         | 0.150 | 0.003                | 0.006 |
| D        | 2.000                         | 2.200 | 0.079                | 0.087 |
| E        | 1.150                         | 1.350 | 0.045                | 0.053 |
| E1       | 2.150                         | 2.450 | 0.085                | 0.096 |
| e        | 0.650TYP                      |       | 0.026TYP             |       |
| e1       | 1.200                         | 1.400 | 0.047                | 0.055 |
| L        | 0.525REF                      |       | 0.021REF             |       |
| L1       | 0.260                         | 0.460 | 0.010                | 0.018 |
| $\theta$ | 0°                            | 8°    | 0°                   | 8°    |