

### / Descriptions

SOT-323          PNP          Silicon PNP transistor in a SOT-323 Plastic Package.

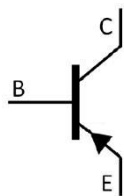
### / Features

High voltage, low saturation voltage, low collector output capacitance , complementary pair with MMBTA42W.

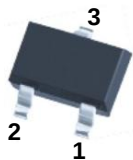
### / Applications

High voltage control circuit.

### / Equivalent Circuit



### / Pinning



PIN1   Emitter          PIN 2   Base          PIN 3   Collector

### / Marking

|         |     |
|---------|-----|
| Marking | H2D |
|---------|-----|

**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                      | Symbol    | Rating  | Unit |
|--------------------------------|-----------|---------|------|
| Collector to Base Voltage      | $V_{CBO}$ | -300    | V    |
| Collector to Emitter Voltage   | $V_{CEO}$ | -300    | V    |
| Emitter to Base Voltage        | $V_{EBO}$ | -5.0    | V    |
| Collector Current - Continuous | $I_C$     | -500    | mA   |
| Collector Power Dissipation    | $P_C$     | 250     | mW   |
| Junction Temperature           | $T_j$     | 150     | °C   |
| Storage Temperature Range      | $T_{stg}$ | -55 150 | °C   |

**/ Electrical Characteristics(Ta=25 )**

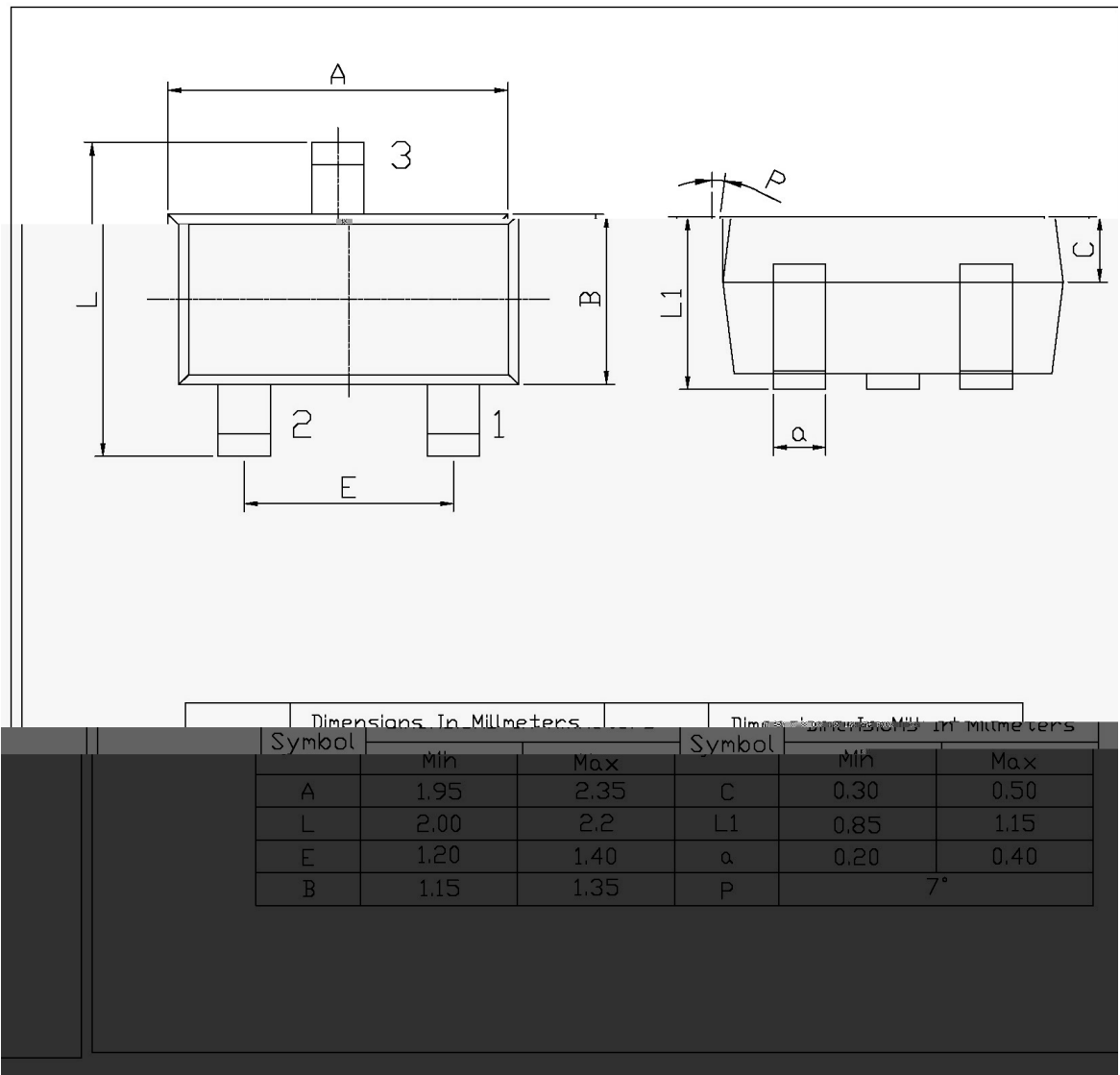
| Parameter                               | Symbol        | Test Conditions                            | Min  | Typ | Max   | Unit    |
|-----------------------------------------|---------------|--------------------------------------------|------|-----|-------|---------|
| Collector to Base Breakdown Voltage     | $V_{CBO}$     | $I_C = -100\mu A$ $I_E = 0$                | -300 |     |       | V       |
| Collector to Emitter Breakdown Voltage  | $V_{CEO}$     | $I_C = -1.0mA$ $I_B = 0$                   | -300 |     |       | V       |
| Emitter to Base Breakdown Voltage       | $V_{EBO}$     | $I_E = -100\mu A$ $I_C = 0$                | -5.0 |     |       | V       |
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB} = -200V$ $I_E = 0$                 |      |     | -0.25 | $\mu A$ |
| Emitter Base Cut-Off Current            | $I_{EBO}$     | $V_{BE} = -3.0V$ $I_C = 0$                 |      |     | -0.1  | $\mu A$ |
| DC Current Gain                         | $h_{FE(1)}$   | $V_{CE} = -10V$ $I_C = -10mA$              | 40   |     |       |         |
|                                         | $h_{FE(2)}$   | $V_{CE} = -10V$ $I_C = -30mA$              | 25   |     |       |         |
|                                         | $h_{FE(3)}$   | $V_{CE} = -10V$ $I_C = -1.0mA$             | 25   |     |       |         |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -20mA$ $I_B = -2.0mA$               |      |     | -0.5  | V       |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = -20mA$ $I_B = -2.0mA$               |      |     | -0.9  | V       |
| Transition Frequency                    | $f_T$         | $V_{CE} = -20V$ $I_C = -10mA$ $f = 100MHz$ | 50   |     |       | MHz     |
| Collector output capacitance            | $C_{ob}$      | $V_{CB} = -20V$ $f = 1.0MHz$ $I_E = 0$     |      |     | 6.0   | pF      |



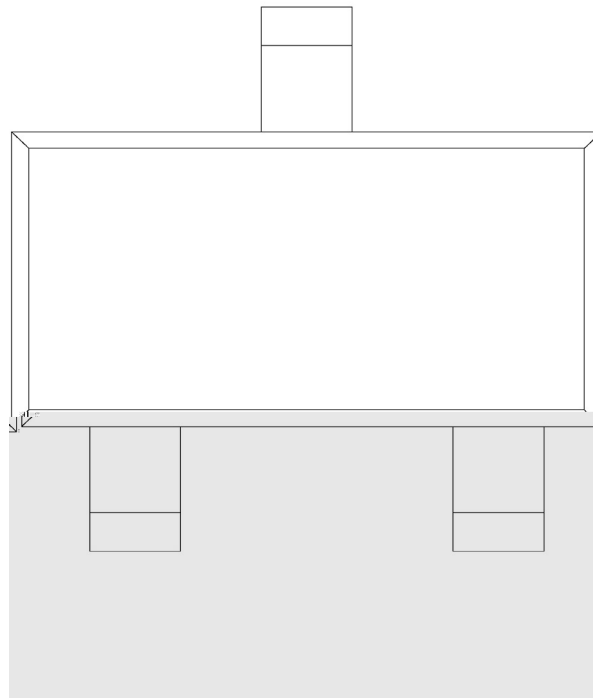
/ Package Dimensions

SOT-323

单位: mm

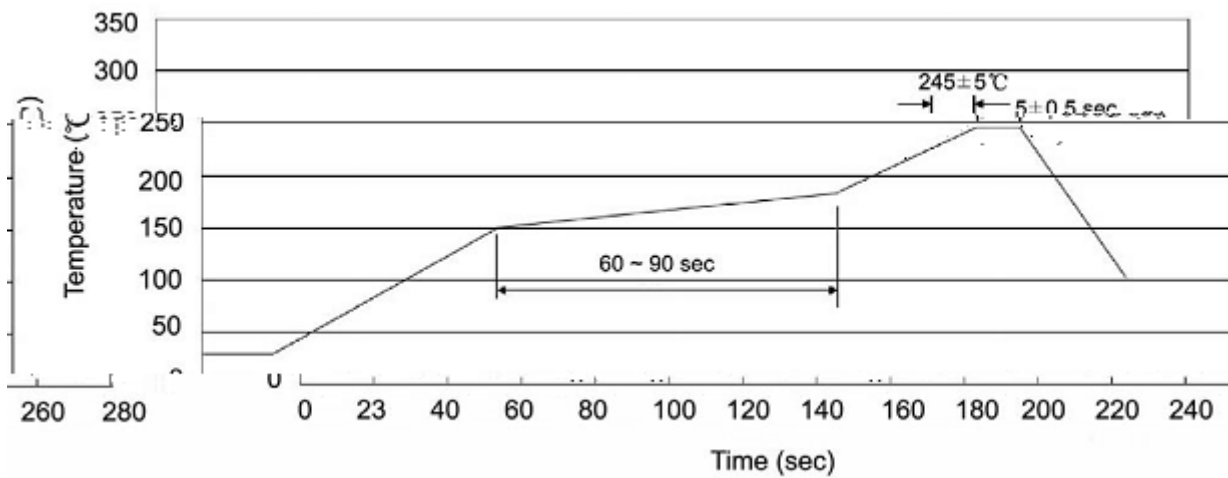


**/ Marking Instructions**



H

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- |   |       |     |           |                                         |                                      |
|---|-------|-----|-----------|-----------------------------------------|--------------------------------------|
| 1 | 25    | 150 | 60        | 90sec;                                  | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 245±5 |     | 5±0.5sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |                                      |
| 3 |       | 2   | 10        | /sec.                                   | 3. Cooling Speed: 2~10 /sec.         |

/ Resistance to Soldering Heat Test Conditions

260±5      10±1 sec.      Temp.:260±5℃      Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type | Units/Reel | Reels/Inner Box | Units | Dimension | (unit mm <sup>3</sup> ) |
|--------------|------------|-----------------|-------|-----------|-------------------------|
|              | /          | /               |       |           |                         |