

## Absolute maximum ratings

(Ta=25°C)

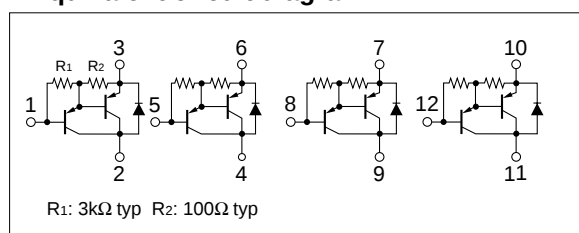
| Symbol           | Ratings                             | Unit             |
|------------------|-------------------------------------|------------------|
| V <sub>CBO</sub> | -100                                | V                |
| V <sub>CEO</sub> | -100                                | V                |
| V <sub>EBO</sub> | -6                                  | V                |
| I <sub>C</sub>   | -5                                  | A                |
| I <sub>CP</sub>  | -8 (PW≤1ms, Du≤50%)                 | A                |
| I <sub>B</sub>   | -0.5                                | A                |
| P <sub>T</sub>   | 5 (Ta=25°C)                         | W                |
|                  | 25 (Tc=25°C)                        |                  |
| V <sub>ISO</sub> | 1000 (Between fin and lead pin, AC) | V <sub>rms</sub> |
| T <sub>j</sub>   | 150                                 | °C               |
| T <sub>stg</sub> | -40 to +150                         | °C               |
| θ <sub>j-c</sub> | 5                                   | °C/W             |

## Electrical characteristics

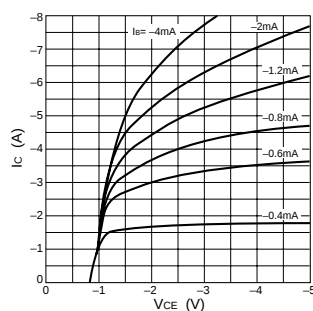
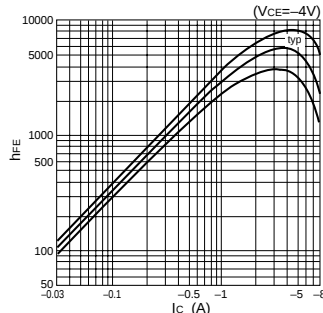
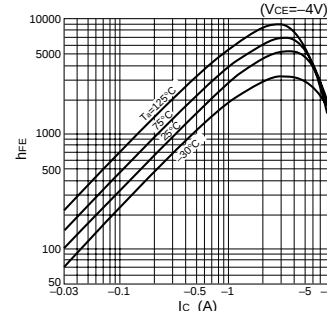
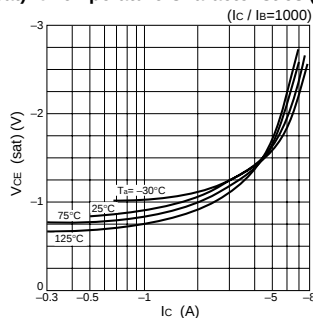
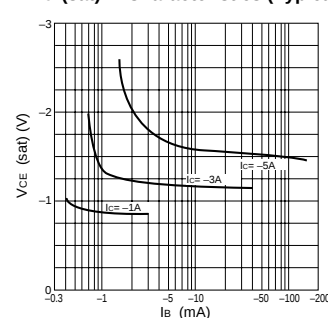
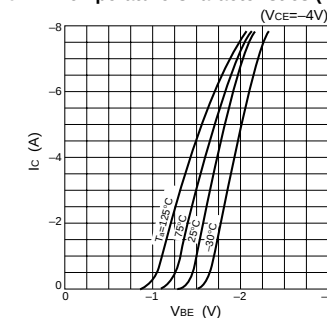
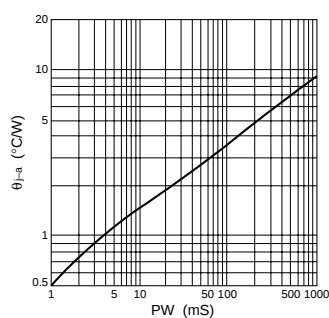
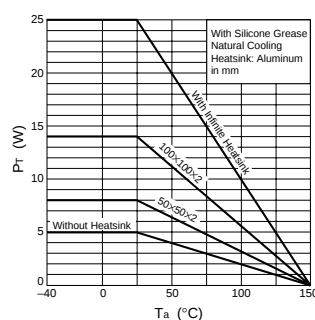
(Ta=25°C)

| Symbol               | Specification |      |       | Unit | Conditions                                |
|----------------------|---------------|------|-------|------|-------------------------------------------|
|                      | min           | typ  | max   |      |                                           |
| I <sub>CBO</sub>     |               |      | -10   | μA   | V <sub>CB</sub> =-100V                    |
| I <sub>EBO</sub>     |               |      | -10   | mA   | V <sub>EB</sub> =-6V                      |
| V <sub>CEO</sub>     | -100          |      |       | V    | I <sub>C</sub> =-10mA                     |
| h <sub>FE</sub>      | 1000          | 5000 | 15000 |      | V <sub>CE</sub> =-2V, I <sub>C</sub> =-3A |
| V <sub>CE(sat)</sub> |               | -1.0 | -1.5  | V    | I <sub>C</sub> =-3A, I <sub>B</sub> =-6mA |
| V <sub>BE(sat)</sub> |               | -1.6 | -2.0  | V    |                                           |

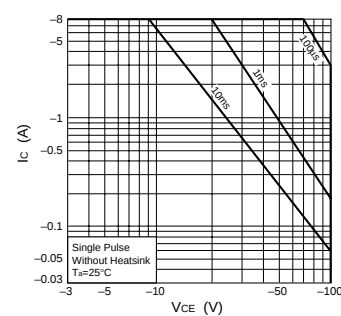
## Equivalent circuit diagram



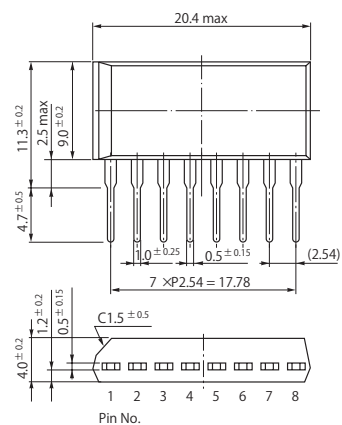
## Characteristic curves

I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)V<sub>CE(sat)</sub>-I<sub>C</sub> Temperature Characteristics (Typical)V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)θ<sub>j-a</sub>-PW CharacteristicsP<sub>T</sub>-T<sub>a</sub> Characteristics

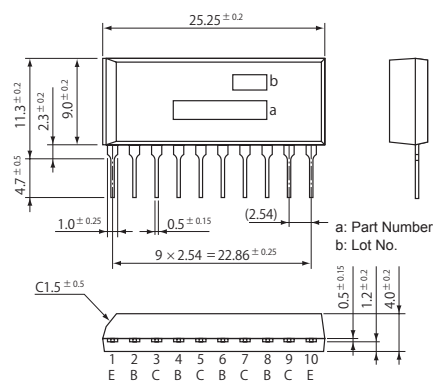
Safe Operating Area (SOA)



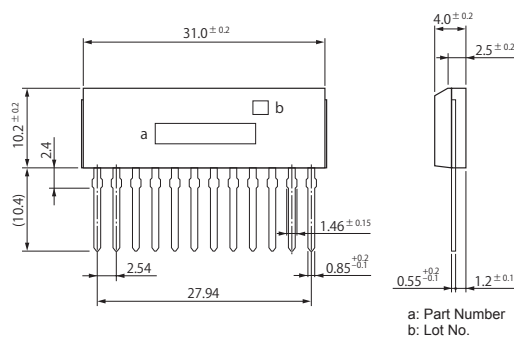
• SIP 8 (STA8Pin)



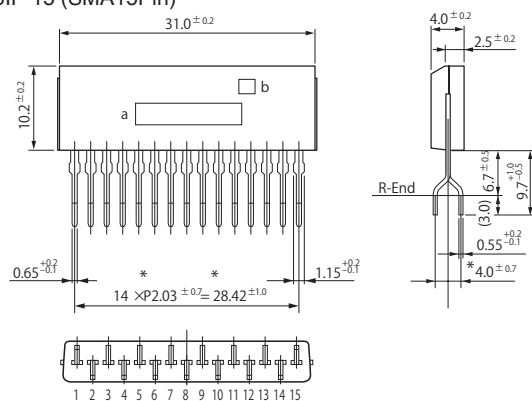
• SIP 10 (STA10Pin)



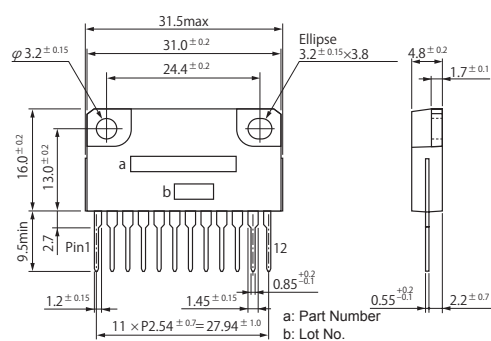
• SIP 12 (SMA12Pin)



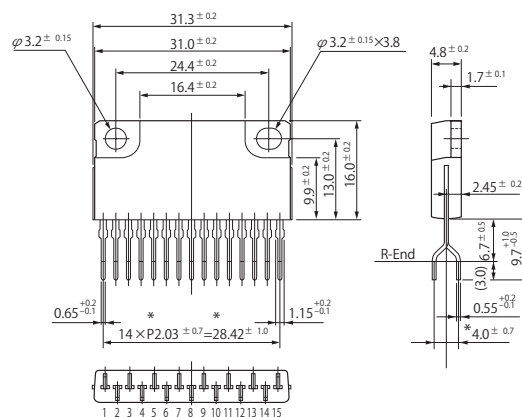
• SIP 15 (SMA15Pin)



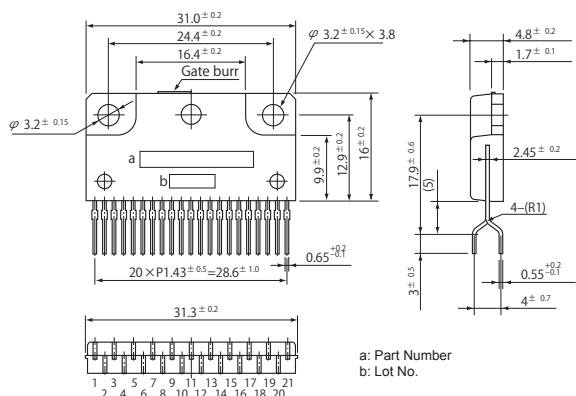
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)