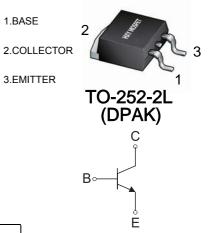


#### Features

• Power Switching Applications



#### Package Marking and Ordering Information

| Product ID | Pack            | Marking | Qty(PCS) |
|------------|-----------------|---------|----------|
| 13003      | TO-252-2L(DPAK) | 13003   | 2500     |

## Maxmim Ratings (Ta=25°Cunless otherwise noted)

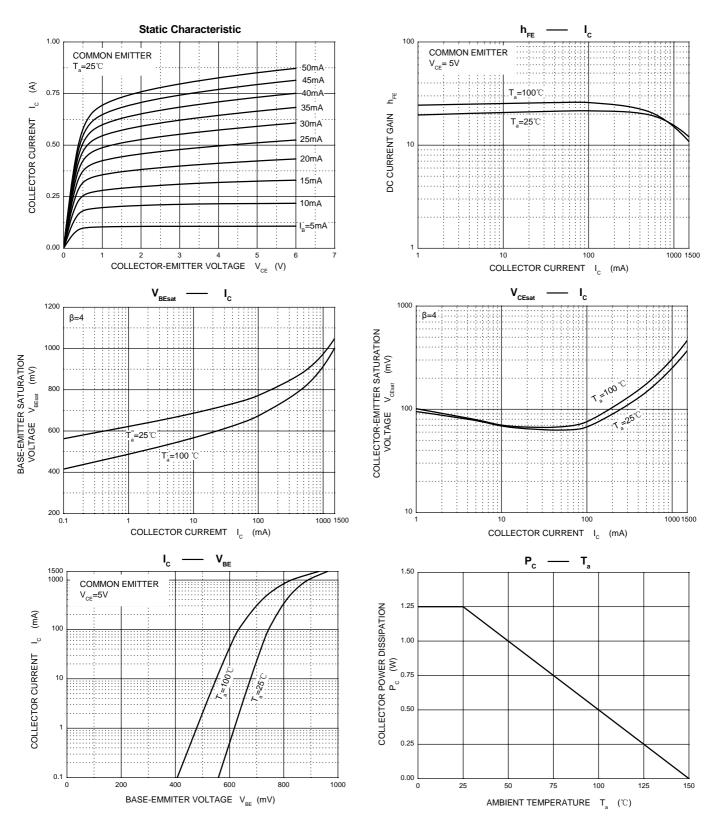
| Symbol                            | Parameter   | Value    | Unit |
|-----------------------------------|---|----------|------|
| V <sub>CBO</sub>                  | Collector-Base Voltage                              | 700      | V    |
| V <sub>CEO</sub>                  | Collector-Emitter Voltage                           | 480      | V    |
| V <sub>EBO</sub>                  | Emitter-Base Voltage                                | 9        | V    |
| lc                                | Collector Current -Continuous                       | 1.5      | А    |
| Pc                                | Collector Dissipation                               | 1.25     | W    |
| T <sub>J</sub> , T <sub>stg</sub> | Operation Junction and<br>Storage Temperature Range | -55~+150 | °C   |

### Electrcal Charcteristics (Ta=25°Cunless otherwise specified)

| Parameter                            | Symbol   | Test conditions   | Min | Тур | Max | Unit |
|--------------------------------------|--|---|-----|-----|-----|------|
| Collector-base breakdown voltage     | V(BR)CBO   | lc= 1mA,I <sub>E</sub> =0   | 700 |     |     | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub>   | Ic= 10 mA,I <sub>B</sub> =0   | 480 |     |     | V    |
| Emitter-base breakdown voltage       | V(BR)EBO   | I <sub>E</sub> = 1mA, I <sub>C</sub> =0   | 9   |     |     | V    |
| Collector cut-off current            | I <sub>CBO</sub>   | V <sub>CB</sub> = 700V,I <sub>E</sub> =0  |     |     | 0.5 | mA   |
| Collector cut-off current            | I <sub>CEO</sub>   | V <sub>CE</sub> = 400V,I <sub>B</sub> =0  |     |     | 0.5 | mA   |
| Emitter cut-off current              | I <sub>EBO</sub>   | V <sub>EB</sub> = 7 V,I <sub>C</sub> =0   |     |     | 0.5 | mA   |
| DC ourrent sain                      | ICEICEICEICEICEICEICEICEICBO $V_{CB}$ = 700V,IE=0I0.5mAICEO $V_{CE}$ = 400V,IB=00.5mAIEBO $V_{EB}$ = 7 V,Ic=00.5mAhFE (1) $V_{CE}$ = 5 V, Ic= 0.5 A2040hFE (2) $V_{CE}$ = 5 V, Ic= 1.5A5IVCE(sat)Ic=0.5A,IB= 200 mA0.5VVBE(sat)Ic=0.5A, IB= 200 mA1.2VVBEIE= 2AI3V |   |     |     |     |      |
| DC current gain                      | h <sub>FE</sub> (2)  | V <sub>CE</sub> = 5 V, I <sub>C</sub> = 1.5A  | 5   |     |     |      |
| Collector-emitter saturation voltage | V <sub>CE</sub> (sat)  | I <sub>C</sub> =0.5A,I <sub>B</sub> = 200 mA  |     |     | 0.5 | V    |
| Base-emitter saturation voltage      | V <sub>BE</sub> (sat)  | I <sub>C</sub> =0.5A, I <sub>B</sub> = 200mA  |     |     | 1.2 | V    |
| Base-emitter voltage                 | V <sub>BE</sub>  | I <sub>E</sub> = 2A   |     |     | 3   | V    |
| Transition frequency                 | f <sub>T</sub>   | V <sub>CE</sub> =10V,Ic=100mA<br>f =1MHz  | 5   |     |     | MHz  |
| Fall time                            | t <sub>f</sub>   | I <sub>C</sub> =1A,I <sub>B1</sub> =-I <sub>B2</sub> =0.2A<br>V <sub>CC</sub> =100V |     |     | 0.5 | μs   |
| Storage time                         | ts   | Ic=250mA  | 1.5 |     | 3.5 | μs   |

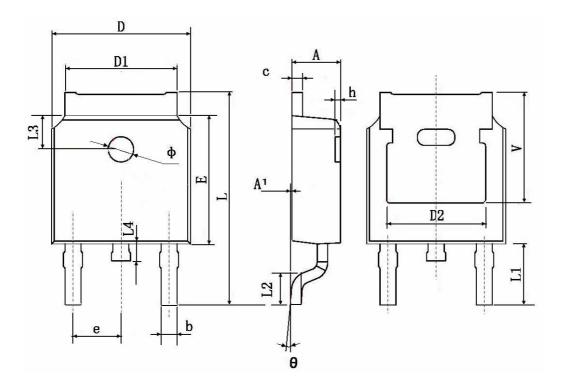


## **Typical Characteristics**





# TO-252-2L(DPAK) Package Information



| <b>a</b> | Dimensions | In Millimeters   | Dimensions In Inches |        |  |
|----------|------------|------------------|----------------------|--------|--|
| Symbol   | Min.       | Max.             | Min.                 | Max.   |  |
| А        | 2.200      | 2.400            | 0.087                | 0.094  |  |
| A1       | 0.000      | 0.127            | 0.000                | 0.005  |  |
| b        | 0.660      | 0.860            | 0.026                | 0.034  |  |
| С        | 0.460      | 0.580            | 0.018                | 0.023  |  |
| D        | 6.500      | 6.700            | 0.256                | 0.264  |  |
| D1       | 5.100      | 5.460            | 0.201                | 0.215  |  |
| D2       | 0.483      | 0.483 TYP. 0.190 |                      | 0 ТҮР. |  |
| E        | 6.000      | 6.200            | 0.236                | 0.244  |  |
| е        | 2.186      | 2.386            | 0.086                | 0.094  |  |
| L        | 9.800      | 10.400           | 0.386                | 0.409  |  |
| L1       | 2.900      | ) TYP.           | 0.11                 | 4 TYP. |  |
| L2       | 1.400      | 1.400 1.700 0    |                      | 0.067  |  |
| L3       | 1.600 TYP. |                  | 0.06                 | 3 ТҮР. |  |
| L4       | 0.600      | 1.000            | 0.024                | 0.039  |  |
| Φ        | 1.100      | 1.300            | 0.043                | 0.051  |  |
| θ        | 0°         | 8°               | 0 °                  | 8°     |  |
| h        | 0.000      | 0.300            | 0.000                | 0.012  |  |
| V        | 5.350      | TYP. 0.211 TYP.  |                      |        |  |



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