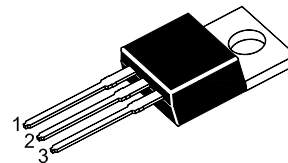


# ST 13007

## NPN Silicon Transistor

for high voltage, high-speed power switching application



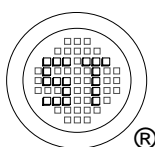
1.Base 2.Collector 3.Emitter  
TO-220 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

| Parameter  | Symbol    | Value         | Unit             |
|--|-----------|---------------|------------------|
| Collector Base Voltage                                       | $V_{CBO}$ | 700           | V                |
| Collector Emitter Voltage                                    | $V_{CEO}$ | 400           | V                |
| Emitter Base Voltage   | $V_{EBO}$ | 9             | V                |
| Collector Current  | $I_C$     | 8             | A                |
| Total Power Dissipation ( $T_a = 25\text{ }^\circ\text{C}$ ) | $P_{tot}$ | 2             | W                |
| Total Power Dissipation ( $T_C = 25\text{ }^\circ\text{C}$ ) | $P_{tot}$ | 80            | W                |
| Junction Temperature   | $T_j$     | 150           | $^\circ\text{C}$ |
| Storage Temperature Range                                    | $T_{stg}$ | - 55 to + 150 | $^\circ\text{C}$ |

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter  | Symbol        | Min. | Max. | Unit |
|--|---------------|------|------|------|
| DC Current Gain<br>at $V_{CE} = 5\text{ V}$ , $I_C = 2\text{ A}$                   | $h_{FE}$      | 8    | 40   | -    |
| Collector Base Cutoff Current<br>at $V_{CB} = 700\text{ V}$                        | $I_{CBO}$     | -    | 1    | mA   |
| Emitter Base Cutoff Current<br>at $V_{EB} = 9\text{ V}$                            | $I_{EBO}$     | -    | 1    | mA   |
| Collector Base Breakdown Voltage<br>at $I_C = 1\text{ mA}$                         | $V_{(BR)CBO}$ | 700  | -    | V    |
| Collector Emitter Breakdown Voltage<br>at $I_C = 10\text{ mA}$                     | $V_{(BR)CEO}$ | 400  | -    | V    |
| Emitter Base Breakdown Voltage<br>at $I_E = 1\text{ mA}$                           | $V_{(BR)EBO}$ | 9    | -    | V    |
| Collector Emitter Saturation Voltage<br>at $I_C = 5\text{ A}$ , $I_B = 1\text{ A}$ | $V_{CE(sat)}$ | -    | 2    | V    |
| Base Emitter Saturation Voltage<br>at $I_C = 5\text{ A}$ , $I_B = 1\text{ A}$      | $V_{BE(sat)}$ | -    | 1.6  | V    |
| Transition Frequency<br>at $V_{CE} = 10\text{ V}$ , $I_C = 0.5\text{ A}$           | $f_T$         | 4    | -    | MHz  |

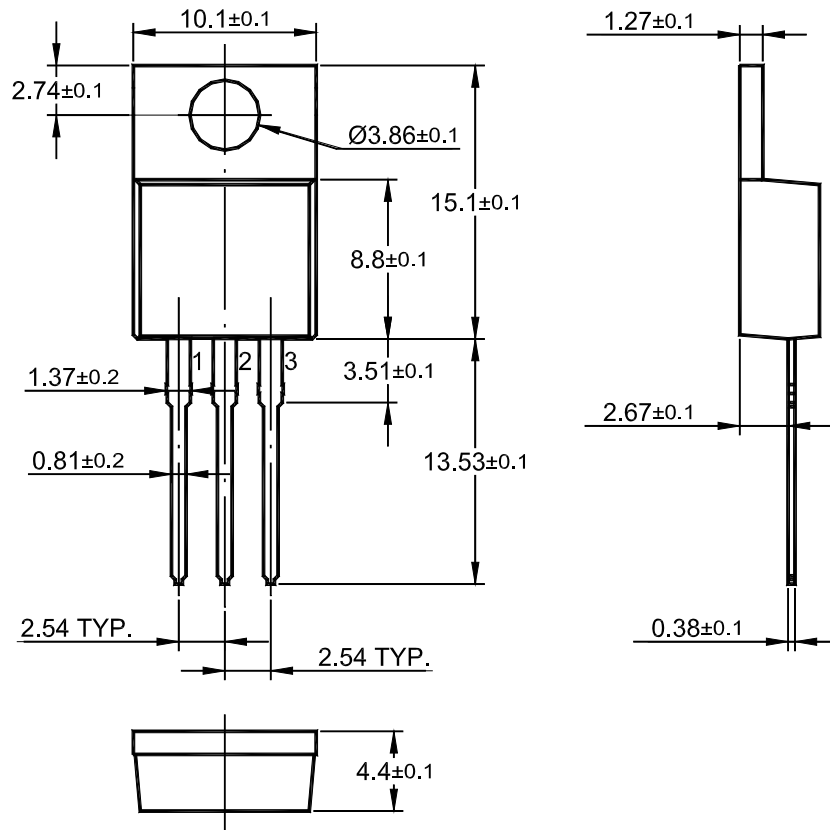


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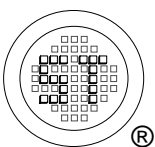


Dated : 20/06/2009

## TO-220 PACKAGE OUTLINE



Dimensions in mm



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