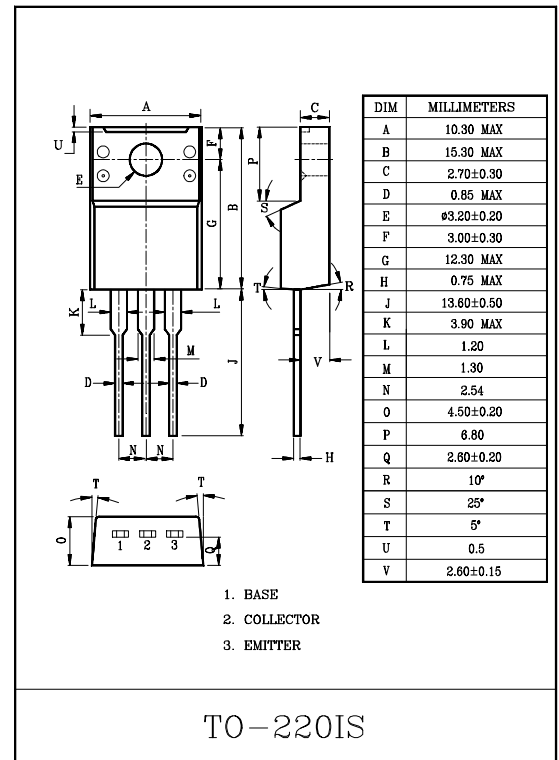


HIGH VOLTAGE AND HIGH RELIABILITY  
HIGH SPEED SWITCHING, WIDE SOA

MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC  |       | SYMBOL           | RATING  | UNIT |
|---|-------|------------------|---------|------|
| Collector-Base Voltage                                |       | V <sub>CB0</sub> | 1100    | V    |
| Collector-Emitter Voltage                             |       | V <sub>CEO</sub> | 800     | V    |
| Emitter-Base Voltage                                  |       | V <sub>EBO</sub> | 7       | V    |
| Collector Current                                     | DC    | I <sub>C</sub>   | 3       | A    |
|   | Pulse | I <sub>CP</sub>  | 10      |      |
| Base Current  |       | I <sub>B</sub>   | 1.5     | A    |
| Collector Power Dissipation<br>(T <sub>C</sub> =25°C) |       | P <sub>C</sub>   | 40      | W    |
| Junction Temperature                                  |       | T <sub>J</sub>   | 150     | °C   |
| Storage Temperature Range                             |       | T <sub>stg</sub> | -55~150 | °C   |

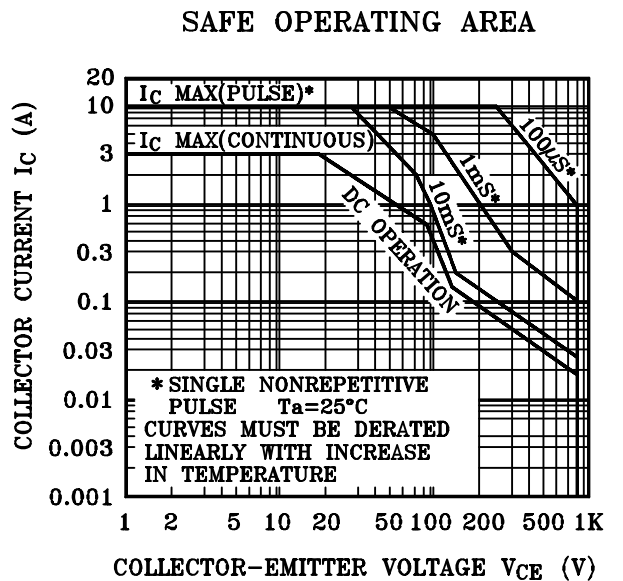
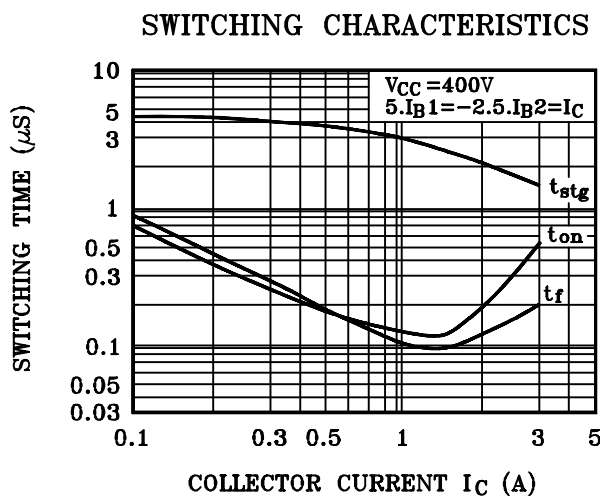
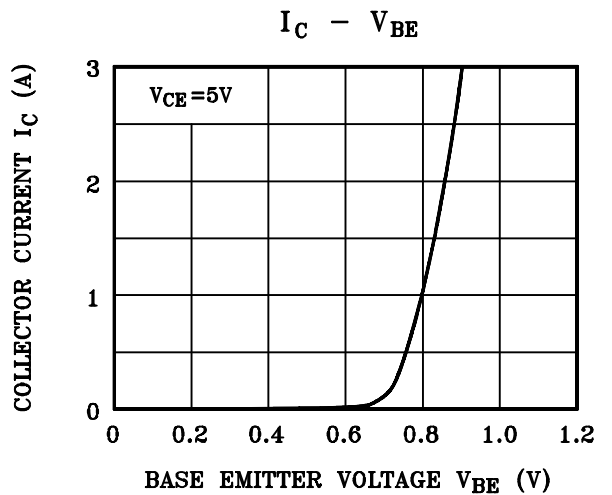
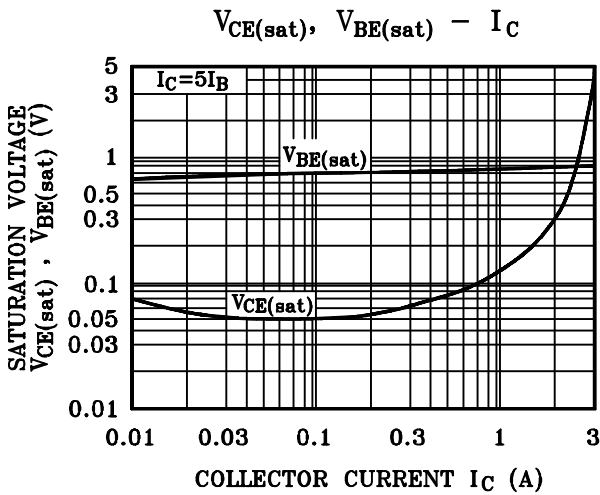
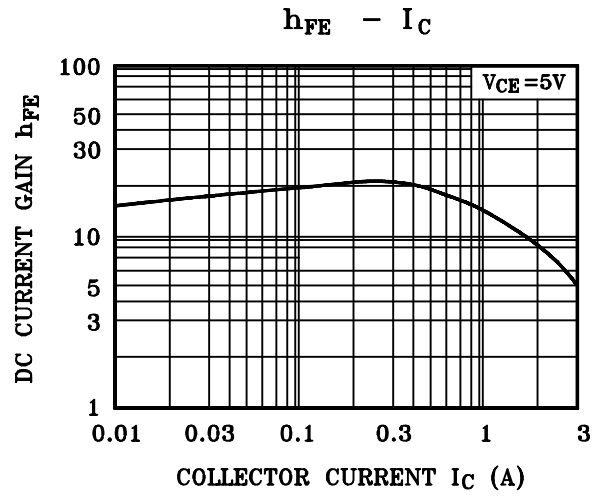
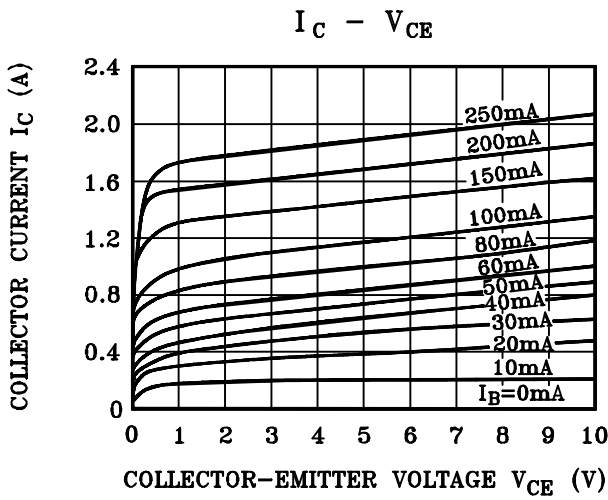


ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C)

| CHARACTERISTIC                       |                               | SYMBOL                | TEST CONDITION  | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|-------------------------------|-----------------------|---|------|------|------|------|
| Collector Cut-off Current            |                               | I <sub>CB0</sub>      | V <sub>CB</sub> =800V, I <sub>E</sub> =0  | -    | -    | 10   | μA   |
| Emitter Cut-off Current              |                               | I <sub>EBO</sub>      | V <sub>EB</sub> =5V, I <sub>C</sub> =0  | -    | -    | 10   | μA   |
| Collector-Emitter Sustaining Voltage |                               | V <sub>CEX(SUS)</sub> | I <sub>C</sub> =1.5A, I <sub>B1</sub> =-I <sub>B2</sub> =0.3A<br>L=2mH, Clamped | 800  | -    | -    | V    |
| Collector-Emitter Saturation Voltage |                               | V <sub>CE(sat)</sub>  | I <sub>C</sub> =1.5A, I <sub>B</sub> =0.3A                                      | -    | -    | 2    | V    |
| Base-Emitter Saturation Voltage      |                               | V <sub>BE(sat)</sub>  | I <sub>C</sub> =1.5A, I <sub>B</sub> =0.3A                                      | -    | -    | 1.5  | V    |
| DC Current Gain                      | h <sub>FE</sub> (1)<br>(Note) |                       | V <sub>CE</sub> =5V, I <sub>C</sub> =0.2A                                       | 15   | -    | 40   |      |
|                                      | h <sub>FE</sub> (2)           |                       | V <sub>CE</sub> =5V, I <sub>C</sub> =1A   | 8    | -    | -    |      |
| Collector-Base Breakdown Voltage     |                               | BV <sub>CB0</sub>     | I <sub>C</sub> =1mA, I <sub>E</sub> =0  | 1100 | -    | -    | V    |
| Collector-Emitter Breakdown Voltage  |                               | BV <sub>CEO</sub>     | I <sub>C</sub> =5mA, R <sub>BE</sub> =∞   | 800  | -    | -    | V    |
| Emitter-Base Breakdown Voltage       |                               | BV <sub>EBO</sub>     | I <sub>E</sub> =1mA, I <sub>C</sub> =0  | 7    | -    | -    | V    |
| Collector Output Capacitance         |                               | C <sub>ob</sub>       | V <sub>CB</sub> =10V, f=1MHz, I <sub>E</sub> =0                                 | -    | 60   | -    | pF   |
| Transition Frequency                 |                               | f <sub>T</sub>        | V <sub>CE</sub> =10V, I <sub>C</sub> =0.2A                                      | -    | 15   | -    | MHz  |
| Switching Time                       | Turn On Time                  | t <sub>on</sub>       | <p>I<sub>B1</sub>=0.4A, I<sub>B2</sub>=-0.8A<br/>DUTY CYCLE ≤ 1%</p>            | -    | -    | 0.5  | μS   |
|                                      | Storage Time                  | t <sub>stg</sub>      |   | -    | -    | 3    |      |
|                                      | Fall Time                     | t <sub>f</sub>        |   | -    | -    | 0.3  |      |

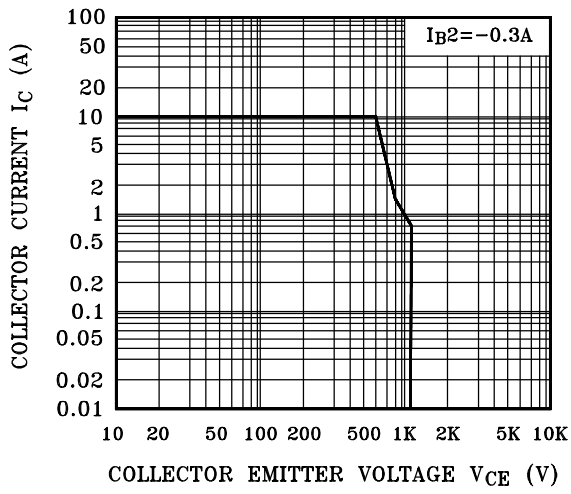
Note : h<sub>FE</sub> (1) Classification R:15~30, O:20~40

# KTC4527F



# KTC4527F

REVERSE BIAS SAFE OPERATING AREA



$P_c - T_a$

