

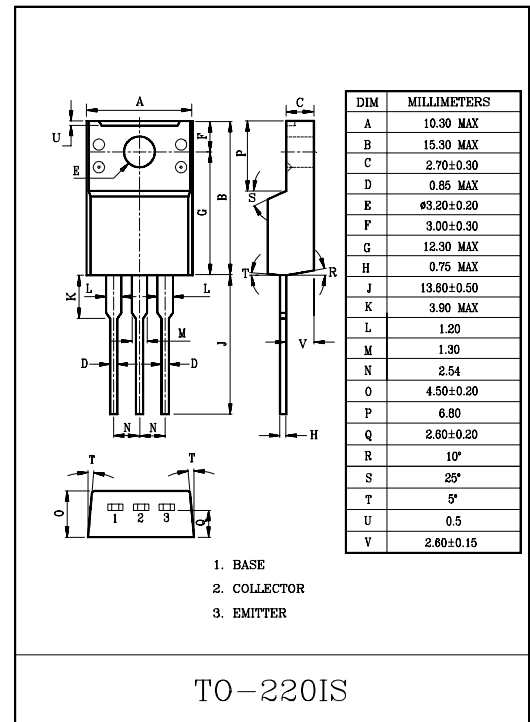
SWITCHING REGULATOR APPLICATION.  
HIGH VOLTAGE SWITCHING APPLICATION.  
HIGH SPEED DC-DC CONVERTER APPLICATION.  
FLUORESCENT LIGHT BALLASTOR APPLICATION.

### FEATURES

- Excellent Switching Times  
:  $t_{on}=0.8\mu S(\text{Max.})$ ,  $t_f=0.9\mu S(\text{Max.})$ , at  $I_C=2A$
- High Collector Voltage :  $V_{CBO}=700V$ .

### MAXIMUM RATINGS ( $T_a=25^\circ C$ )

| CHARACTERISTIC                                      |       | SYMBOL    | RATING  | UNIT       |
|-----------------------------------------------------|-------|-----------|---------|------------|
| Collector-Base Voltage                              |       | $V_{CBO}$ | 700     | V          |
| Collector-Emitter Voltage                           |       | $V_{CEO}$ | 400     | V          |
| Emitter-Base Voltage                                |       | $V_{EBO}$ | 9       | V          |
| Collector Current                                   | DC    | $I_C$     | 4       | A          |
|                                                     | Pulse |           | 8       |            |
| Base Current                                        |       | $I_B$     | 2       | A          |
| Collector Power Dissipation<br>( $T_c=25^\circ C$ ) |       | $P_C$     | 30      | W          |
| Junction Temperature                                |       | $T_j$     | 150     | $^\circ C$ |
| Storage Temperature Range                           |       | $T_{stg}$ | -55~150 | $^\circ C$ |

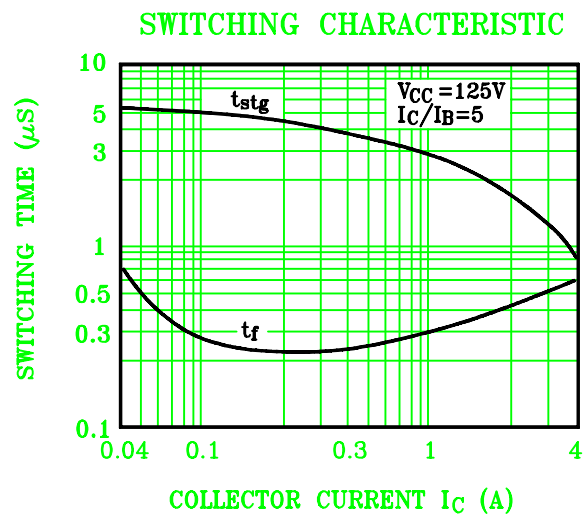
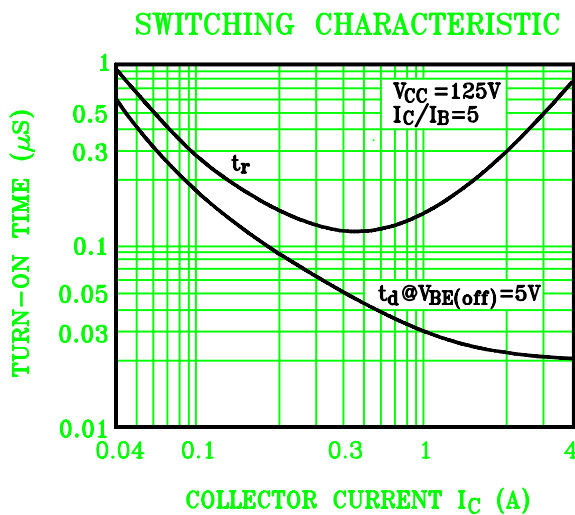
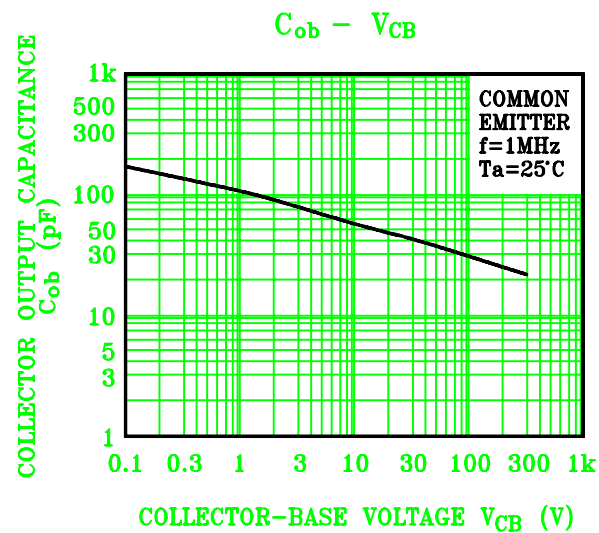
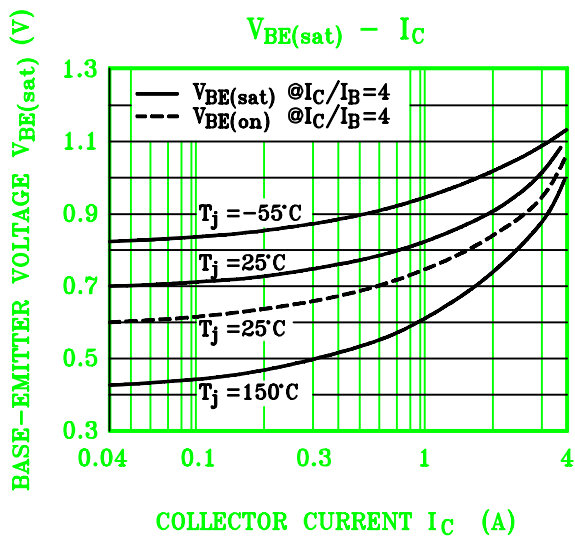
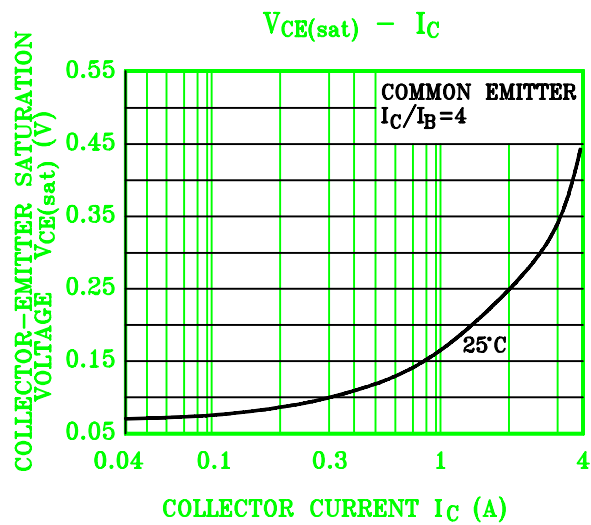
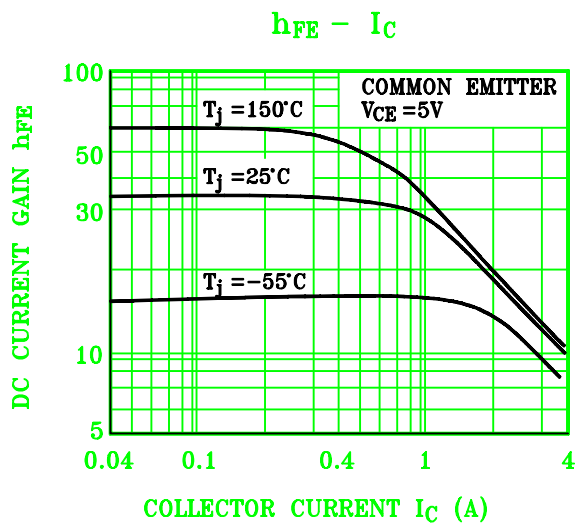


### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

| CHARACTERISTIC                       | SYMBOL                 | TEST CONDITION                   | MIN. | TYP. | MAX. | UNIT    |
|--------------------------------------|------------------------|----------------------------------|------|------|------|---------|
| Emitter Cut-off Current              | $I_{EBO}$              | $V_{EB}=9V$ , $I_C=0$            | -    | -    | 1    | mA      |
| DC Current Gain                      | $h_{FE}(1)\text{Note}$ | $V_{CE}=5V$ , $I_C=1A$           | 19   | -    | 36   |         |
|                                      | $h_{FE}(2)\text{Note}$ | $V_{CE}=5V$ , $I_C=2A$           | 10   | -    | 30   |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$          | $I_C=1A$ , $I_B=0.2A$            | -    | -    | 0.5  | V       |
|                                      |                        | $I_C=2A$ , $I_B=0.5A$            | -    | -    | 0.6  |         |
|                                      |                        | $I_C=4A$ , $I_B=1A$              | -    | -    | 1    |         |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$          | $I_C=1A$ , $I_B=0.2A$            | -    | -    | 1.2  | V       |
|                                      |                        | $I_C=2A$ , $I_B=0.5A$            | -    | -    | 1.6  |         |
| Collector Output Capacitance         | $C_{ob}$               | $V_{CB}=10V$ , $f=0.1\text{MHz}$ | -    | 65   | -    | pF      |
| Transition Frequency                 | $f_T$                  | $V_{CE}=10V$ , $I_C=0.5A$        | 4    | -    | -    | MHz     |
| Turn-On Time                         | $t_{on}$               |                                  | -    | -    | 0.8  | $\mu S$ |
| Storage Time                         | $t_{stg}$              |                                  | -    | -    | 4    | $\mu S$ |
| Fall Time                            | $t_f$                  |                                  | -    | -    | 0.9  | $\mu S$ |

Note :  $h_{FE}(1)$  Classification O:19~28 , Y:26~36

# MJE13005F



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