

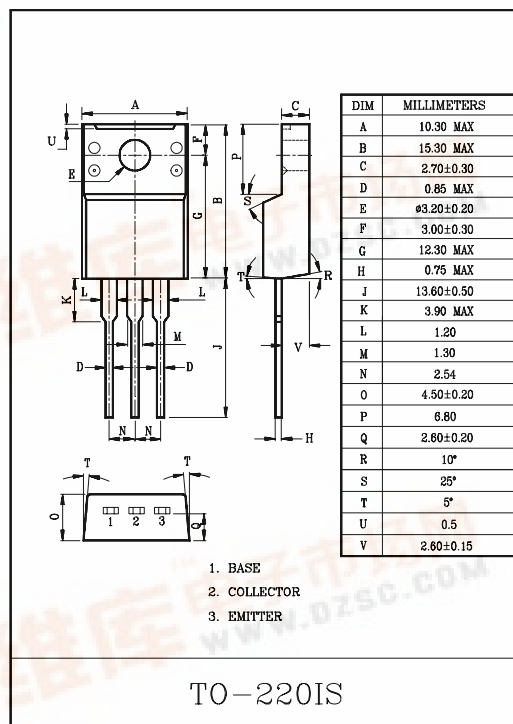
SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

FEATURES

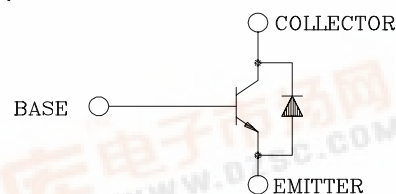
- High h_{FE} : $h_{FE}=500\sim 1500$ ($I_C=0.5A$).
- Low Collector Saturation : $V_{CE(sat)}=0.35V(\text{Max.})$ ($I_C=1A$).

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

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|-----------|---------|------------|
| Collector-Base Voltage | | V_{CBO} | 100 | V |
| Collector-Emitter Voltage | | V_{CEO} | 80 | V |
| Emitter-Base Voltage | | V_{EBO} | 7 | V |
| Collector Current | DC | I_C | 3 | A |
| | Pulse | I_{CP} | 5 | |
| Base Current | | I_B | 1 | A |
| Collector Power Dissipation | $T_a=25^\circ C$ | P_C | 2 | W |
| | $T_c=25^\circ C$ | | 25 | |
| Junction Temperature | | T_j | 150 | $^\circ C$ |
| Storage Temperature Range | | T_{stg} | -55~150 | $^\circ C$ |



EQUIVALENT CIRCUIT



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

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|--------------|-----------------------|--|------|------|------|---------|
| Collector Cut-off Current | | I_{CBO} | $V_{CB}=80V, I_E=0$ | - | - | 10 | μA |
| Emitter Cut-off Current | | I_{EBO} | $V_{EB}=7V, I_C=0$ | - | - | 10 | μA |
| Collector-Emitter Breakdown Voltage | | $V_{(BR)CEO}$ | $I_C=50mA, I_B=0$ | 80 | - | - | V |
| DC Current Gain | $h_{FE}(1)$ | $V_{CE}=1V, I_C=0.5A$ | 500 | - | 1500 | | |
| | $h_{FE}(2)$ | $V_{CE}=1V, I_C=1A$ | 150 | - | - | | |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | $I_C=1A, I_B=0.01A$ | - | - | 0.35 | V |
| Base-Emitter Saturation Voltage | | $V_{BE(sat)}$ | $I_C=1A, I_B=0.01A$ | - | - | 1.2 | V |
| Collector Emitter Forward Voltage | | V_{ECF} | $I_E=3A, I_B=0$ | - | - | 2.5 | V |
| Transition Frequency | | f_T | $V_{CE}=5V, I_C=1A$ | - | 140 | - | MHz |
| Collector Output Capacitance | | C_{ob} | $V_{CE}=10V, I_E=0, f=1MHz$ | - | 30 | - | pF |
| Switching Time | Turn-on Time | t_{on} | <p>$I_{B1} = -I_{B2} = 10mA$ DUTY CYCLE < 1%</p> | - | 0.5 | - | μS |
| | Storage Time | T_{stg} | | - | 5.0 | - | |
| | Fall Time | t_f | | - | 0.7 | - | |

KTD2092

