

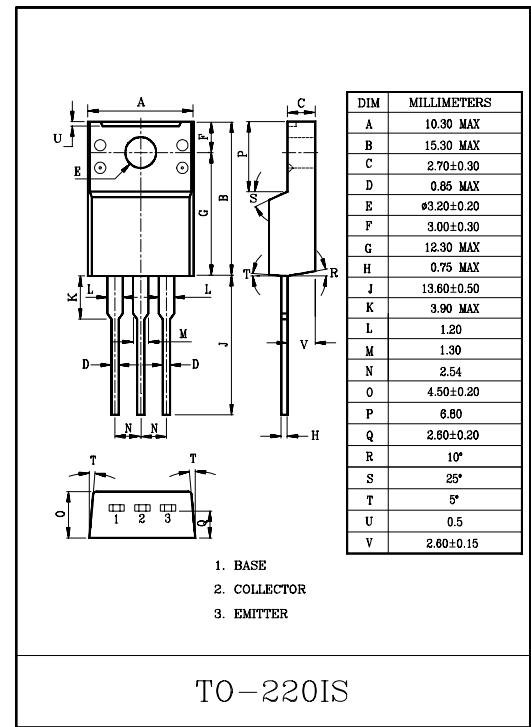
HIGH POWER SWITCHING APPLICATIONS.
HAMMER DRIVER, PULSE MOTOR DRIVER
APPLICATIONS.

FEATURES

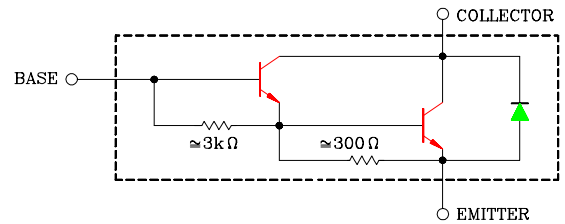
- High DC Current Gain : $h_{FE}=2000(\text{Min.})$ at $V_{CE}=2V, I_C=3A$.
- Low Saturation Voltage : $V_{CE(\text{sat})}=1.5V(\text{Max.})$ at $I_C=3A$.

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

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|------------------|---------|------------------|
| Collector-Base Voltage | V_{CBO} | 150 | V |
| Collector-Emitter Voltage | V_{CEO} | 100 | V |
| Emitter-Base Voltage | V_{EB0} | 7 | V |
| Collector Current | I_C | 5 | A |
| Base Current | I_B | 0.5 | A |
| Collector Power Dissipation ($T_c=25^\circ\text{C}$) | P_C | 25 | W |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55~150 | $^\circ\text{C}$ |



EQUIVALENT CIRCUIT

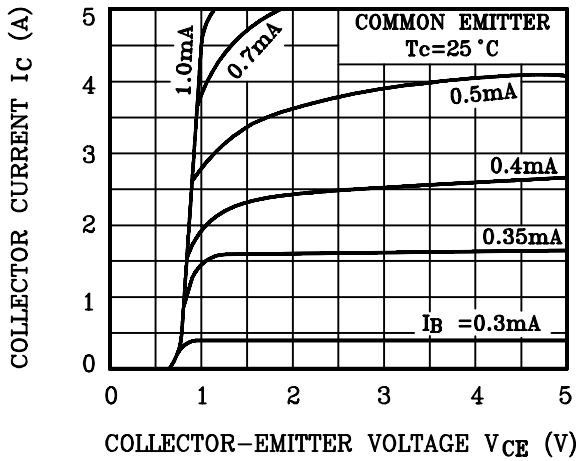


ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

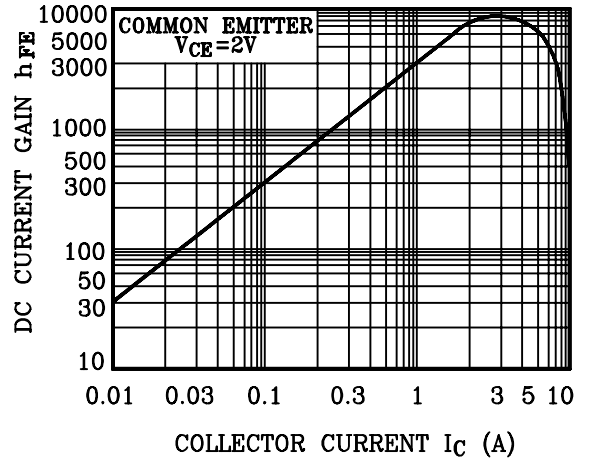
| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------------|-------------------|----------------------|---|------|------|-------|---------------|
| Collector Cut-off Current | | I_{CBO} | $V_{CB}=100V, I_B=0$ | - | - | 1 | mA |
| Collector-Emitter Breakdown Voltage | | $V_{(BR)CEO}$ | $I_C=10mA, I_B=0$ | 100 | - | - | V |
| DC Current Gain | | $h_{FE(1)}$ | $V_{CE}=2V, I_C=3A$ | 2000 | 6000 | 15000 | |
| | | $h_{FE(2)}$ | $V_{CE}=2V, I_C=5A$ | 500 | - | - | |
| Saturation Voltage | Collector-Emitter | $V_{CE(\text{sat})}$ | $I_C=3A, I_B=3mA$ | - | 0.9 | 1.5 | V |
| | Base-Emitter | $V_{BE(\text{sat})}$ | $I_C=3A, I_B=3mA$ | - | 1.6 | 2.0 | |
| Switching Time | Turn-on Time | t_{on} | <p>$I_{B1} = -I_{B2} = 3mA$ DUTY CYCLE $\leq 1\%$</p> | - | 1.0 | - | μS |
| | Storage Time | t_{stg} | | - | 3.5 | - | |
| | Fall Time | t_f | | - | 1.2 | - | |

KTD1413

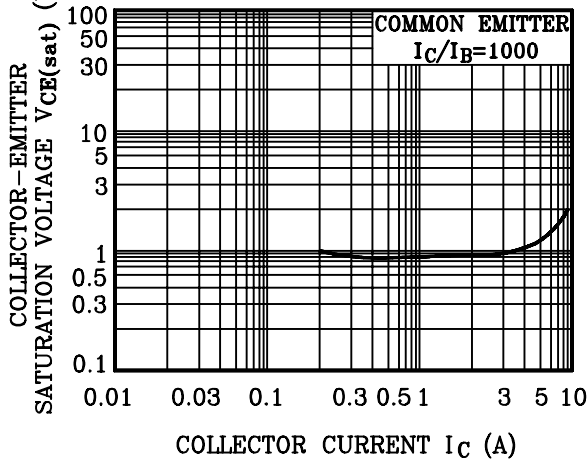
$I_C - V_{CE}$



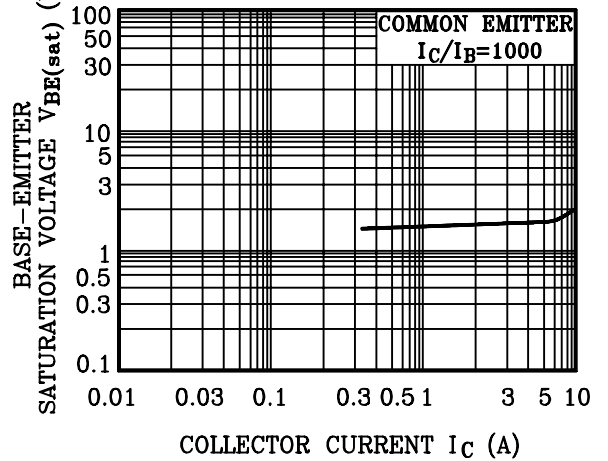
$h_{FE} - I_C$



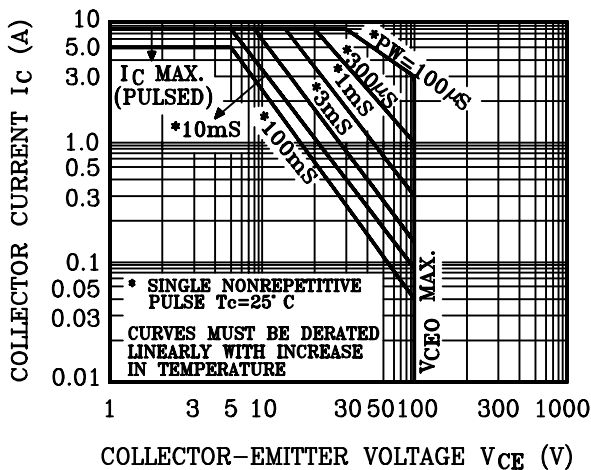
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



SAFE OPERATING AREA



$P_C - T_a$

