



KSH13009

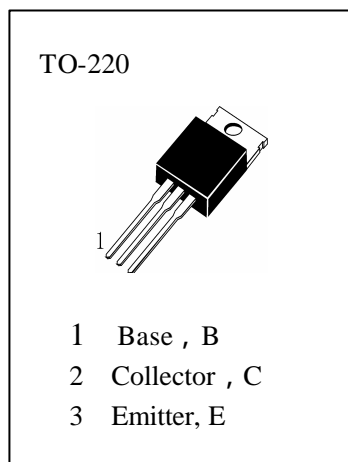
HIGH VOLTAGE SWITCH MODE APPLICATIONS

High Speed Switching

Suitable for Switching Regulator and Motor Control

ABSOLUTE MAXIMUM RATINGS ($T_a=25$)

| | |
|---|---------|
| T_{stg} —Storage Temperature..... | -55~150 |
| T_j —Junction Temperature..... | 150 |
| P_C —Collector Dissipation($T_c=25$)..... | 100W |
| V_{CBO} —Collector-Base Voltage..... | 700V |
| V_{CEO} —Collector-Emitter Voltage..... | 400V |
| V_{EBO} —Emitter-Base Voltage..... | 9V |
| I_C —Collector Current (DC) | 12A |
| I_B —Base Current..... | 6A |



ELECTRICAL CHARACTERISTICS ($T_a=25$)

| Symbol | Characteristics | Min | Typ | Max | Unit | Test Conditions |
|----------------|---------------------------------------|-----|-----|-----|---------|---|
| V_{CEO} | Collector-Emitter Breakdown Voltage | 400 | | | V | $I_C=10mA, I_B=0$ |
| I_{EBO} | Emitter-Base Cut-off Current | | | 1 | mA | $V_{EB}=9V, I_C=0$ |
| $H_{FE}(1)$ | DC Current Gain | 8 | | 40 | | $V_{CE}=5V, I_C=5A$ |
| $H_{FE}(2)$ | | 6 | | 30 | | $V_{CE}=5V, I_C=8A$ |
| $V_{CE(sat)1}$ | Collector- Emitter Saturation Voltage | | | 1 | V | $I_C=5A, I_B=1A$ |
| $V_{CE(sat)2}$ | | | | 1.5 | V | $I_C=8A, I_B=1.6A$ |
| $V_{CE(sat)3}$ | | | | 3 | V | $I_C=12A, I_B=3A$ |
| $V_{BE(sat)1}$ | Base-Emitter Saturation Voltage | | | 1.2 | V | $I_C=5A, I_B=1A$ |
| $V_{BE(sat)2}$ | | | | 1.6 | V | $I_C=8A, I_B=1.6A$ |
| C_{ob} | Output Capacitance | | 180 | | pF | $V_{CB}=10V, f=0.1MHz$ |
| f_T | Current Gain-Bandwidth Product | 4 | | | MHz | $V_{CE}=10V, I_C=0.5A$ |
| t_{ON} | Turn On Time | | | 1.1 | μs | } $V_{CC}=125V, I_C=8A,$ $I_{B1}=1.6A, I_{B2}=-1.6A$ |
| t_{STG} | Storage Time | | | 3 | μs | |
| t_F | Fall Time | | | 0.7 | μs | |