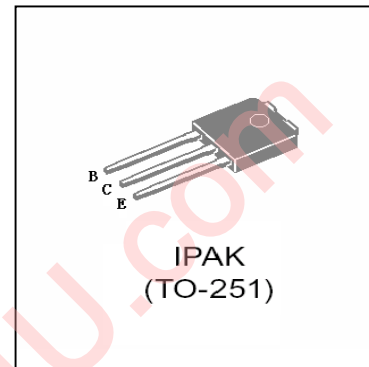


BUL SERIES TRANSISTORS**BUL1688**

- **FEATURES:** ■ HIGH VOLTAGE CAPABILITY ■ HIGH SPEED SWITCHING ■ WIDE SOA
- **APPLICATION:** ■ FLUORESCENT LAMP ■ ELECTRONIC BALLAST ■ ELECTRONIC TRANSFORMER

● **Absolute Maximum Ratings (Tc=25°C)****TO-251**

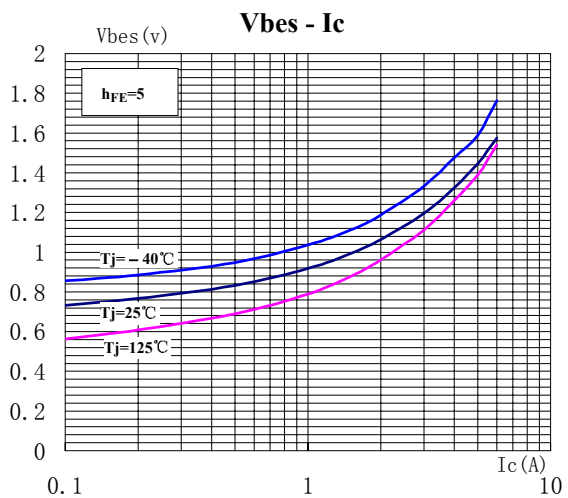
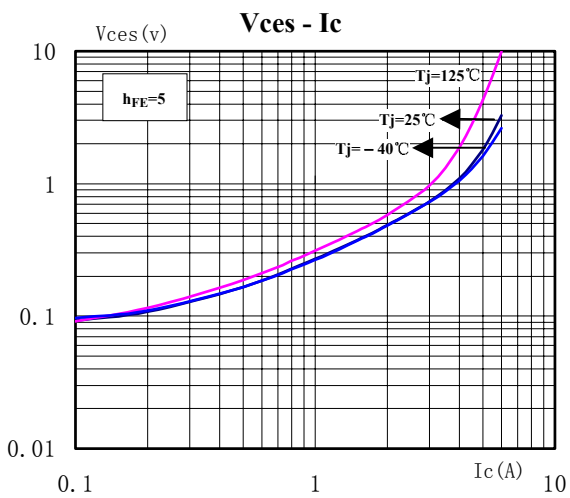
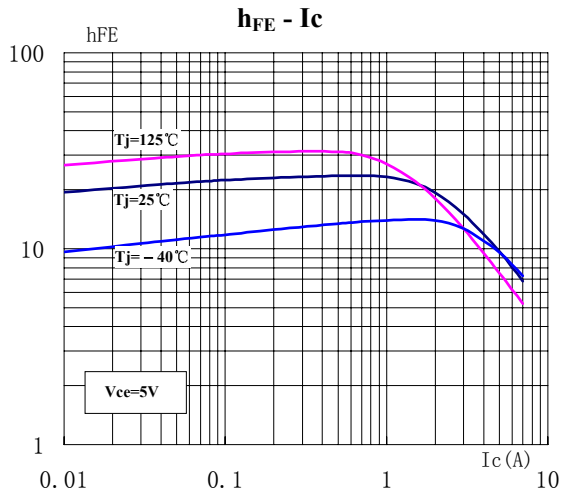
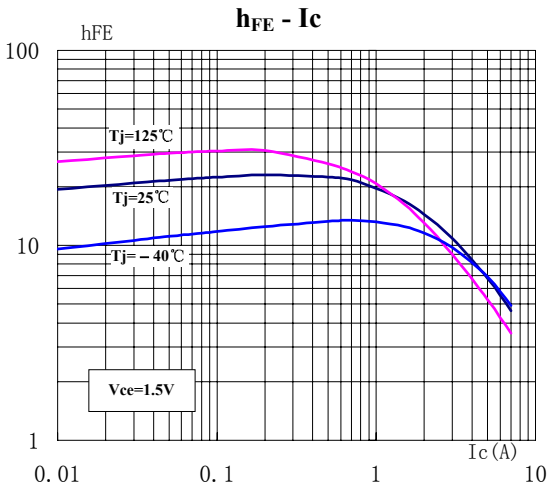
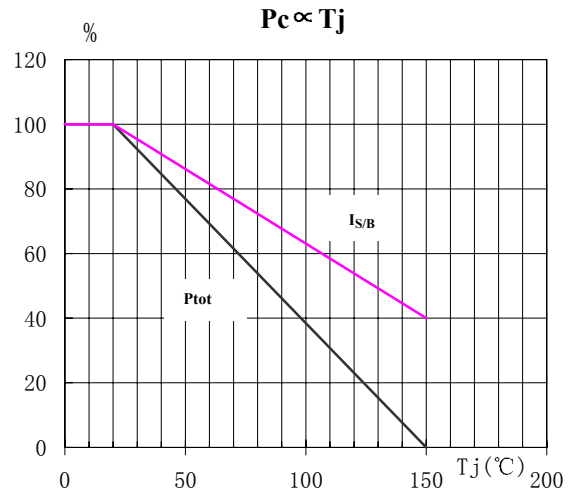
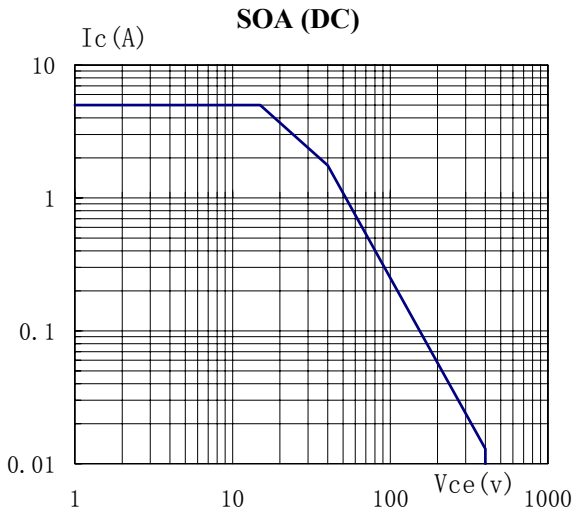
| PARAMETER | SYMBOL | VALUE | UNIT |
|---------------------------|-----------|---------|------|
| Collector-Base Voltage | V_{CBO} | 700 | V |
| Collector-Emitter Voltage | V_{CEO} | 400 | V |
| Emitter- Base Voltage | V_{EBO} | 9 | V |
| Collector Current | I_C | 5.0 | A |
| Total Power Dissipation | P_C | 50 | W |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature | T_{stg} | -65-150 | °C |

● **Electronic Characteristics (Tc=25°C)**

| CHARACTERISTICS | SYMBOL | TEST CONDITION | MIN | MAX | UNIT |
|--------------------------------------|-----------|------------------------------|-----|-----|---------|
| Collector-Base Cutoff Current | I_{CBO} | $V_{CB}=700V$ | | 100 | μA |
| Collector-Emitter Cutoff Current | I_{CEO} | $V_{CE}=400V, I_B=0$ | | 250 | μA |
| Collector-Emitter Voltage | V_{CEO} | $I_C=10mA, I_B=0$ | 400 | | V |
| Emitter-Base Voltage | V_{EBO} | $I_E=1mA, I_C=0$ | 9 | | V |
| Collector-Emitter Saturation Voltage | V_{ces} | $I_C=1.0A, I_B=0.2A$ | | 0.5 | V |
| | | $I_C=2.0A, I_B=0.4A$ | | 0.7 | |
| | | $I_C=4.0A, I_B=1.0A$ | | 1.5 | |
| Base-Emitter Saturation Voltage | V_{bes} | $I_C=2.0A, I_B=0.4A$ | | 1.5 | V |
| DC Current Gain | h_{FE} | $V_{CE}=5V, I_C=10mA$ | 8 | | |
| | | $V_{CE}=5V, I_C=1.0A$ | 10 | 40 | |
| | | $V_{CE}=5V, I_C=2.5A$ | 8 | | |
| Storage Time | t_s | $V_{CC}=250V,$ $I_C=5I_B$ | | 3 | μS |
| Falling Time | t_f | $I_{B1} = -I_{B2}=0.5A$ | | 0.8 | |

BUL SERIES TRANSISTORS

BUL1688



TO-251 (IPAK) MECHANICAL DATA

UNIT: mm

| SYMBOL | min | nom | max |
|----------------|------|-----|------|
| A | 2.2 | | 2.4 |
| A ₁ | 1.1 | | 1.3 |
| B | 1.35 | | 1.65 |
| b | 0.5 | | 0.7 |
| b ₁ | 0.7 | | 0.9 |
| c | 0.46 | | 0.56 |
| c ₁ | 0.46 | | 0.56 |
| D | 6.35 | | 6.65 |
| D ₁ | 5.2 | | 5.4 |
| E | 5.4 | | 5.6 |
| e | | 2.3 | |
| e ₁ | 4.5 | | 4.7 |
| L | 7.5 | | 7.9 |

