

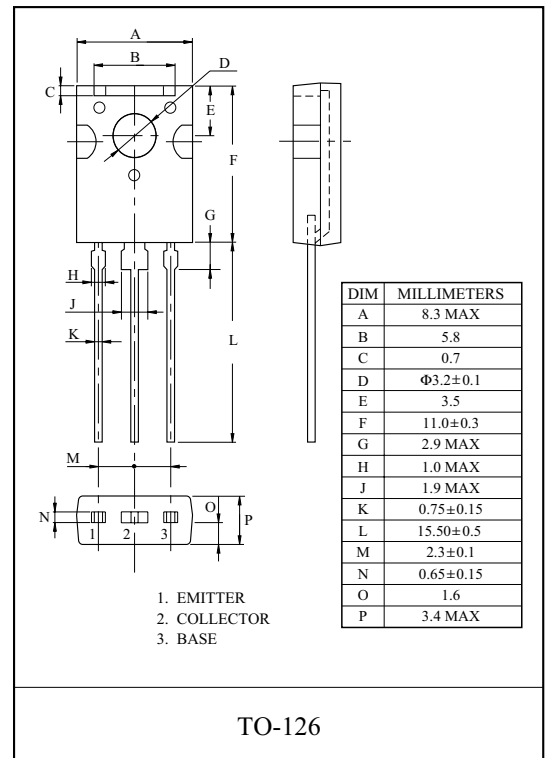
LOW FREQUENCY POWER AMP,
MEDIUM SPEED SWITCHING APPLICATIONS

FEATURES

- High breakdown voltage V_{CE0} 120V, high current 1A.
- Low saturation voltage and good linearity of h_{FE} .
- Complementary to KTB631K.

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

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|--------------------------------|------------------------|-----------|-----------|------------------|
| Collector-Base Voltage | | V_{CBO} | 120 | V |
| Collector-Emitter Voltage | | V_{CEO} | 120 | V |
| Emitter-Base Voltage | | V_{EBO} | 5 | V |
| Collector Current | | I_C | 1 | A |
| | | I_{CP} | 2 | |
| Collector Power Dissipation | $T_a=25^\circ\text{C}$ | P_C | 1.5 | W |
| | $T_c=25^\circ\text{C}$ | | 8 | |
| Junction Temperature | | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | | T_{stg} | -55 ~ 150 | $^\circ\text{C}$ |



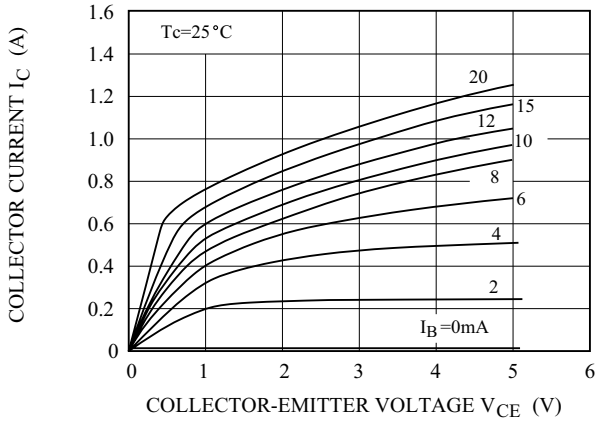
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|------------------|---------------|--|------|------|------|---------------|
| Collector Cut of Current | | I_{CBO} | $V_{CB}=50\text{V}, I_E=0$ | - | - | 1 | μA |
| Emitter Cut of Current | | I_{EBO} | $V_{EB}=4\text{V}, I_C=0$ | - | - | 1 | μA |
| Collector-Base Breakdown Voltage | | $V_{(BR)CBO}$ | $I_C=10\mu\text{A}, I_E=0$ | 120 | - | - | V |
| Collector-Emitter Breakdown Voltage | | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$ | 120 | - | - | V |
| Emitter-Base Breakdown Voltage | | $V_{(BR)EBO}$ | $I_E=10\mu\text{A}, I_C=0$ | 5 | - | - | V |
| DC Current Gain | $h_{FE}(1)$ Note | | $V_{CE}=5\text{V}, I_C=50\text{mA}$ | 100 | - | 320 | |
| | $h_{FE}(2)$ | | $V_{CE}=5\text{V}, I_C=500\text{mA}$ | 20 | - | - | |
| Gain Bandwidth Product | | f_T | $V_{CE}=10\text{V}, I_C=50\text{mA}$ | - | 130 | - | MHz |
| Output Capacitance | | C_{ob} | $V_{CB}=10\text{V}, f=1\text{MHz}, I_E=0$ | - | 20 | - | pF |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | - | 0.15 | 0.4 | V |
| Base-Emitter Saturation Voltage | | $V_{BE(sat)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | - | 0.85 | 1.2 | V |
| Switching Time | Turn-on Time | t_{on} | <p style="text-align: center;">$V_{CE}=12\text{V}$ $I_C=10I_{B1}=-10I_{B2}=500\text{mA}$</p> | - | 100 | - | nS |
| | Turn-off Time | t_{off} | | - | 500 | - | |
| | Storage Time | t_{stg} | | - | 700 | - | |

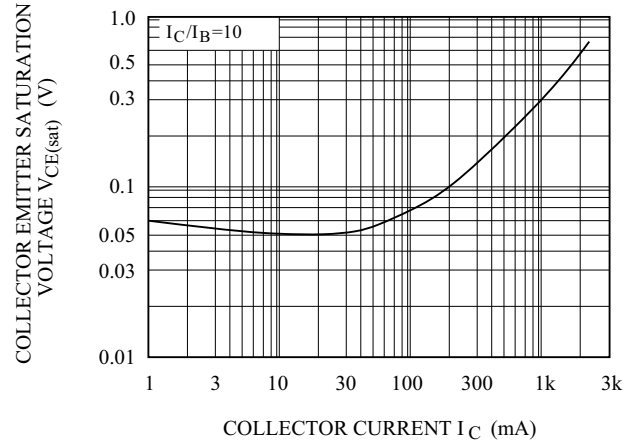
Note : $h_{FE}(1)$ Classification Y:100 ~ 200, GR:160 ~ 320

KTD600K

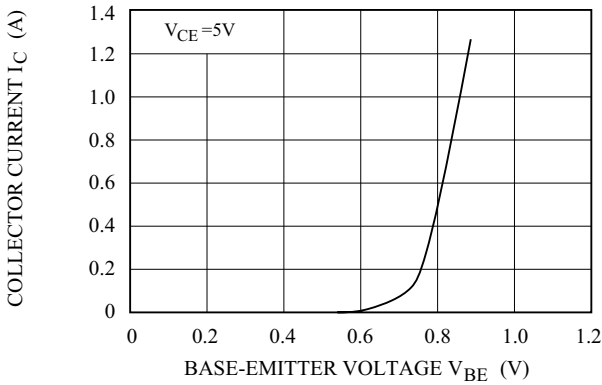
$I_C - V_{CE}$



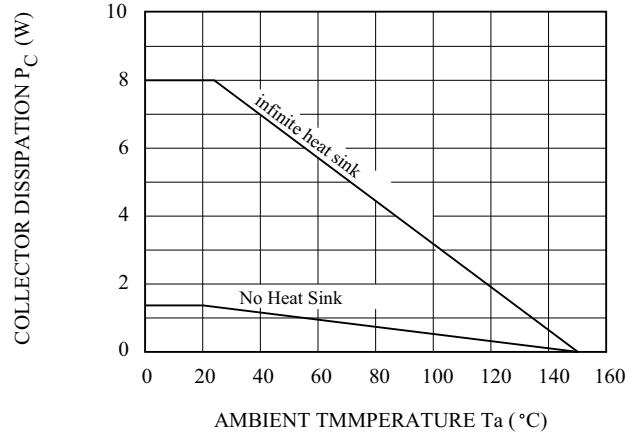
$V_{CE(sat)} - I_C$



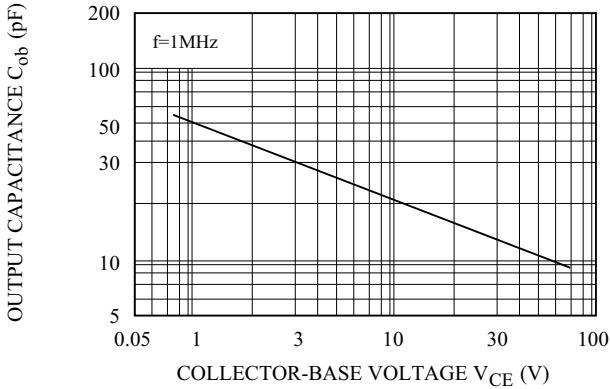
$V_{BE} - I_C$



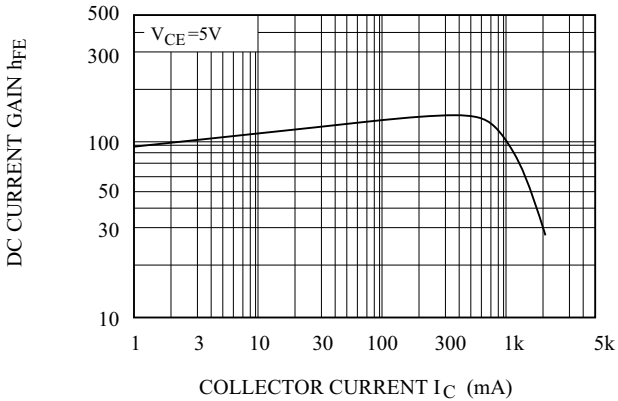
$P_c - T_a$



$C_{ob} - V_{CB}$



$h_{FE} - I_C$



A S O

