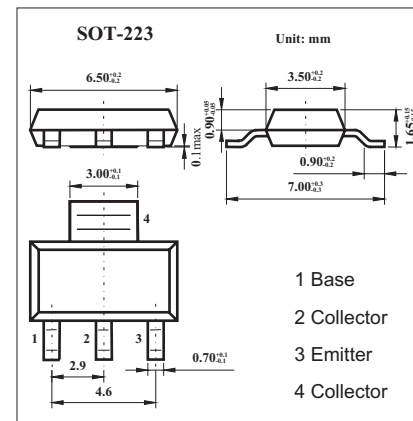


NPN Switching Transistor

KZT2222A

■ Features

- High current (max. 600 mA)
- Low voltage (max.40 V).

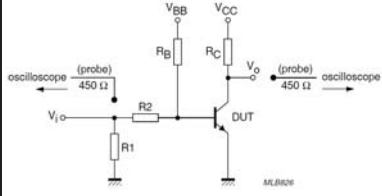


■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---|---------------|-------------|------------------|
| Collector-base voltage | V_{CBO} | 75 | V |
| Collector-emitter voltage | V_{CEO} | 40 | V |
| Emitter-base voltage | V_{EBO} | 6 | V |
| Collector current | I_C | 600 | mA |
| Peak collector current | I_{CM} | 800 | mA |
| Peak base current | I_{BM} | 200 | mA |
| Total power dissipation $T_a \leq 25^\circ\text{C}$ | P_{tot} | 1 | W |
| Storage temperature | T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Operating ambient temperature | T_{amb} | -65 to +150 | $^\circ\text{C}$ |
| Thermal resistance from junction to ambient | $R_{th(j-a)}$ | 109 | K/W |
| Thermal resistance from junction to soldering point | $R_{th(j-s)}$ | 28 | K/W |

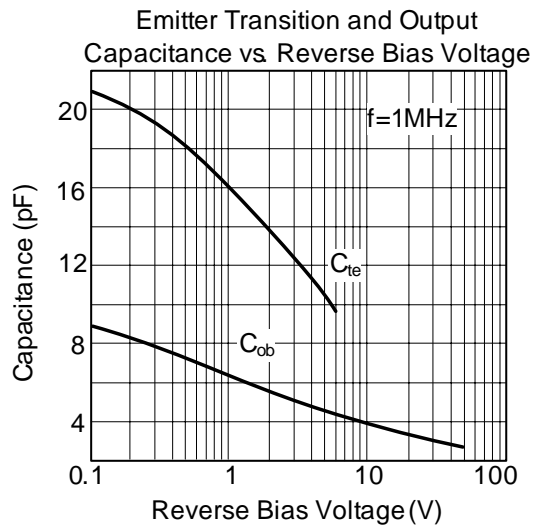
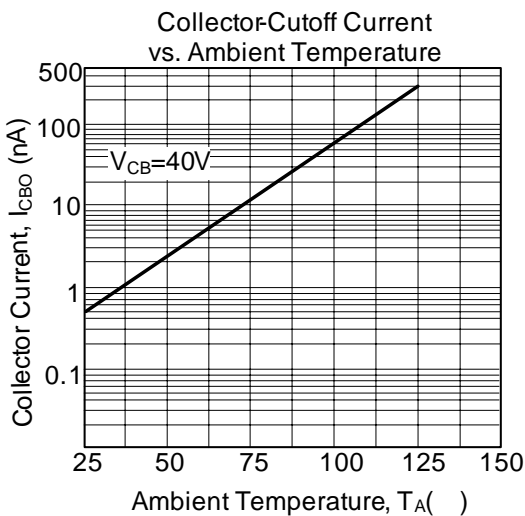
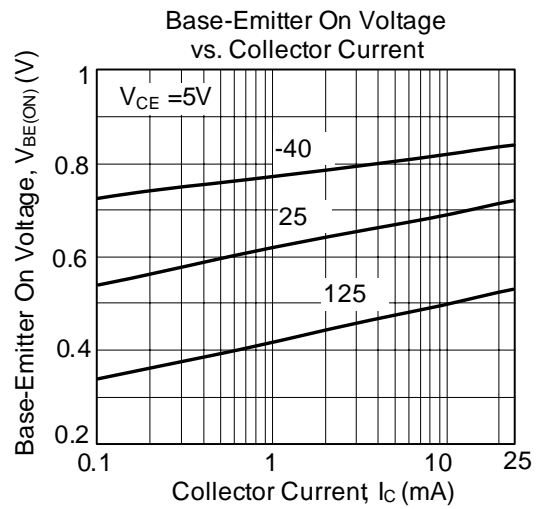
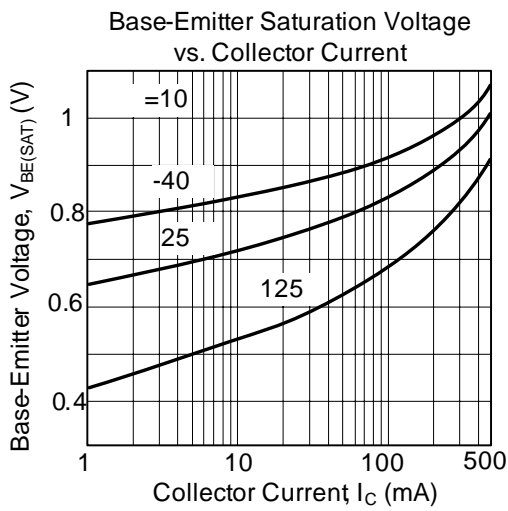
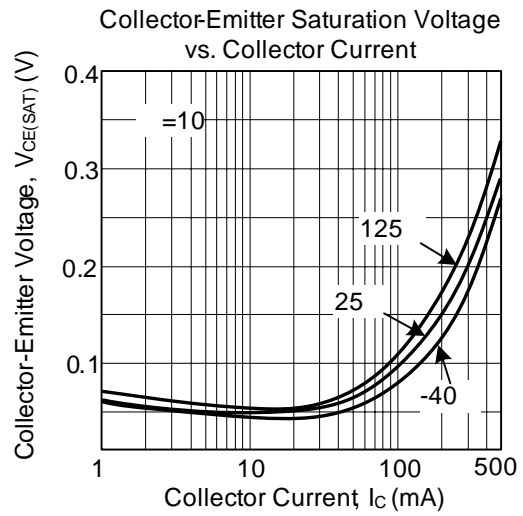
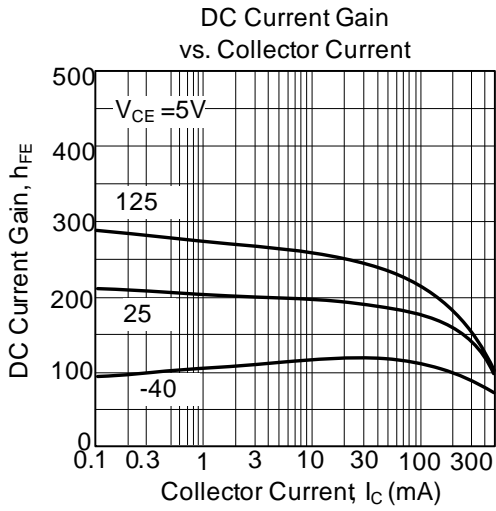
KZT2222A

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit | |
|--------------------------------------|--------|--|---|-----|-----|------|----|
| Collector cutoff current | ICBO | IE = 0; VCB = 60 V | | | 10 | nA | |
| | | IE = 0; VCB = 60 V; Tj = 125 °C | | | 10 | μA | |
| Emitter cutoff current | IEBO | IC = 0; VEB = 5 V | | | 10 | nA | |
| DC current gain | hFE | IC = 0.1 mA; VCE = 10 V | 35 | | | | |
| | | IC = 1 mA; VCE = 10 V | 50 | | | | |
| | | IC = 10 mA; VCE = 10 V | 75 | | | | |
| | | IC = 10 mA; VCE = 10 V; Ta = -55 °C | 35 | | | | |
| | | IC = 150 mA; VCE = 1 V * | 50 | | | | |
| | | IC = 150 mA; VCE = 10 V * | 100 | | 300 | | |
| | | IC = 500 mA; VCE = 10 V * | 40 | | | | |
| collector-emitter saturation voltage | VCEsat | IC = 150 mA; IB = 15 mA | | | 300 | mV | |
| | | IC = 500 mA; IB = 50 mA | | | 1 | V | |
| base-emitter saturation voltage | VBEsat | IC = 150 mA; IB = 15 mA | 0.6 | | 1.2 | V | |
| | | IC = 500 mA; IB = 50 mA | | | 2 | V | |
| Collector capacitance | Cc | IE = iE = 0; VCB = 10 V; f = 1 MHz | | | 8 | pF | |
| Emitter capacitance | Ce | IC = iC = 0; VEB = 500 mV; f = 1 MHz | | | 25 | pF | |
| Turn-on time | ton | ICon = 150 mA; IBon = 15 mA; IBoff = -15 mA | | | 35 | ns | |
| Delay time | td |  | | | 10 | ns | |
| Rise time | tr | | | | | 25 | ns |
| Turn-off time | toff | | | | | 250 | ns |
| Storage time | ts | | Vi = 9.5 V; T = 500 μs; tp = 10 μs; tr = tr ≤ 3 ns. R1 = 68 Ω; R2 = 325 Ω; RB = 325 Ω; RC = 160 Ω. | | | 200 | ns |
| Fall time | tf | | VBB = -3.5 V; VCC = 29.5 V. Oscilloscope input impedance Zi = 50 Ω. | | | 60 | ns |
| Transition frequency | fT | IC = 20 mA; VCE = 20 V; f = 100 MHz | 300 | | | MHz | |

* Pulse test: tp ≤ 300 μs; δ ≤ 0.02.

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS

