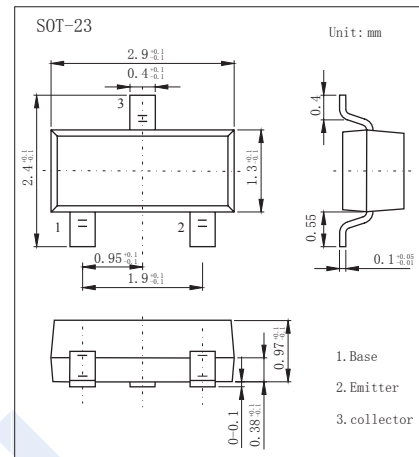


PNP Transistors

FMMT720 (KMMT720)

■ Features

- Switching transistor
- Extremely low saturation voltage
- Complementary NPN type: FMMT619



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

| Parameter | Symbol | Rating | Unit |
|---|-----------------|------------|---------------------------|
| Collector - Base Voltage | V_{CB0} | -40 | V |
| Collector - Emitter Voltage | V_{CE0} | -40 | |
| Emitter - Base Voltage | V_{EB0} | -5 | |
| Collector Current - Continuous (Note.1) | I_C | -1.5 | A |
| Collector Current - Pulse | I_{CP} | -4 | |
| Base Current | I_B | -0.5 | |
| Collector Power Dissipation | P_C | 350 | mW |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 357 | $^\circ\text{C}/\text{W}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature range | T_{stg} | -55 to 150 | |

Note.1: Measured under pulse conditions . Pulse width =300 μs . Duty cycle \leq 2%.

PNP Transistors

FMMT720 (KMMT720)

■ Typical Characteristics

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---------------|--|-----|-----|------|------|
| Collector- base breakdown voltage | V_{CB0} | $I_C = -100 \mu A, I_E = 0$ | -40 | | | V |
| Collector- emitter breakdown voltage | V_{CE0} | $I_C = -10 mA, I_B = 0$ | -40 | | | |
| Emitter - base breakdown voltage | V_{EB0} | $I_E = -100 \mu A, I_C = 0$ | -5 | | | |
| Collector-base cut-off current | I_{CB0} | $V_{CB} = -35 V, I_E = 0$ | | | -100 | nA |
| Collector- emitter cut-off current | I_{CES} | $V_{CE} = -35 V, I_E = 0$ | | | -100 | |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -4 V, I_C = 0$ | | | -100 | |
| Collector-emitter saturation voltage (Note.1) | $V_{CE(sat)}$ | $I_C = -100 mA, I_B = -10 mA$ | | | -45 | mV |
| | | $I_C = -1 A, I_B = -50 mA$ | | | -220 | |
| | | $I_C = -1.5 A, I_B = -100 mA$ | | | -330 | |
| Base - emitter saturation voltage (Note.1) | $V_{BE(sat)}$ | $I_C = -1.5 A, I_B = -75 mA$ | | | -1 | V |
| Base - emitter voltage (Note.1) | $V_{BE(on)}$ | $V_{CE} = -2 V, I_C = -1.5 A$ | | | -1 | |
| DC current gain (Note.1) | $h_{FE(1)}$ | $V_{CE} = -2 V, I_C = -10 mA$ | 200 | | | |
| | $h_{FE(2)}$ | $V_{CE} = -2 V, I_C = -100 mA$ | 200 | | 600 | |
| | $h_{FE(3)}$ | $V_{CE} = -2 V, I_C = -1 A$ | 150 | | | |
| | $h_{FE(4)}$ | $V_{CE} = -2 V, I_C = -1.5 A$ | 100 | | | |
| | $h_{FE(5)}$ | $V_{CE} = -2 V, I_C = -3 A$ | 20 | | | |
| Turn-on Time | t_{on} | $V_{CC} = -15 V, I_C = -0.75 A, I_{B1} =$ $I_{B2} = -15 mA$ | | 40 | | ns |
| Turn-off Time | t_{off} | | | 435 | | |
| Collector output capacitance | C_{ob} | $V_{CB} = -10 V, f = 1 MHz$ | | | 25 | pF |
| Transition frequency | f_T | $V_{CE} = -10 V, I_C = -50 mA, f = 100 MHz$ | 150 | | | MHz |

Note.1: Pulse width = 300 μ s. Duty cycle \leq 2%.

■ Classification of $h_{FE(2)}$

| Type | FMMT720-L | FMMT720-H |
|---------|-----------|-----------|
| Range | 200-350 | 300-600 |
| Marking | 720 | 720. |