



TO-92 Plastic-Encapsulate Transistors

KSP13 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM}: 0.625 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

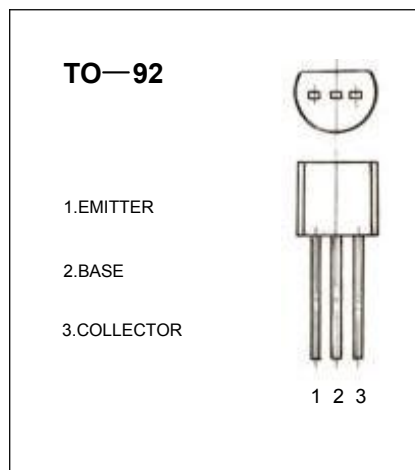
$$I_{CM}: 0.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 30 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^\circ\text{C to } +150^\circ\text{C}$$



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|--|-----|-----|-----|---------------|
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=100\mu\text{A}, I_B=0$ | 30 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=30\text{V}, I_E=0$ | | | 100 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=10\text{V}, I_C=0$ | | | 100 | μA |
| DC current gain(note) | $H_{FE(1)}$ | $V_{CE}=5\text{V}, I_C=10\text{mA}$ | 5K | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}, I_B=0.1\text{mA}$ | | | 1.5 | V |
| Base-emitter voltage | V_{BE} | $V_{CE}=5\text{V}, I_C=100\text{mA}$ | | | 2.0 | V |
| Current Gain Bandwidth Product | f_T | $V_{CE}=5\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$ | 125 | | | MHz |

CLASSIFICATION OF HFE

| Rank | 1 | 2 |
|-------|--------|---------|
| Range | 5K-10K | 10K-20K |