



SOT-23 Plastic-Encapsulate Transistors

MMBTA42LT1 TRANSISTOR (NPN)

FEATURES

Power dissipation

P_{CM} : 0.3 W ($T_{amb}=25^{\circ}C$)

Collector current

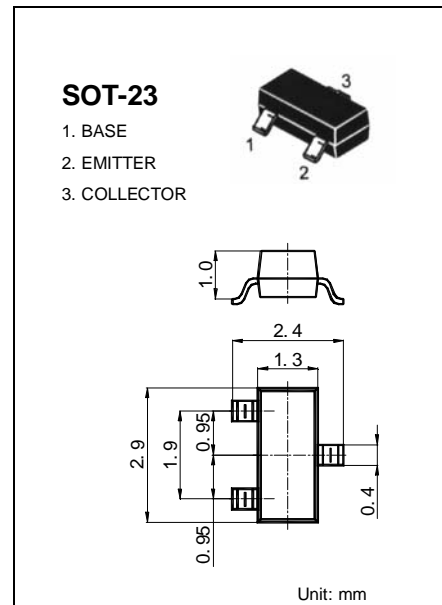
I_{CM} : 0.3 A

Collector-base voltage

$V_{(BR)CBO}$: 300 V

Operating and storage junction temperature range

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



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|--------------------------------------|---------------|---|-----|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu A, I_E=0$ | 310 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1\text{ mA}, I_B=0$ | 305 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\mu A, I_C=0$ | 5 | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=200V, I_E=0$ | | 0.25 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5V, I_C=0$ | | 0.1 | μA |
| DC current gain | $H_{FE(1)}$ | $V_{CE}=10V, I_C=1\text{ mA}$ | 60 | | |
| | $H_{FE(2)}$ | $V_{CE}=10V, I_C=10\text{ mA}$ | 100 | 200 | |
| | $H_{FE(3)}$ | $V_{CE}=10V, I_C=30\text{ mA}$ | 60 | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=20\text{ mA}, I_B=2\text{ mA}$ | | 0.2 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=20\text{ mA}, I_B=2\text{ mA}$ | | 0.9 | V |
| Transition frequency | f_T | $V_{CE}=20V, I_C=10\text{ mA}$ $f=30\text{ MHz}$ | 50 | | MHz |

DEVICE MARKING

MMBTA42LT1=1D