

PNP Silicon Epitaxial Planar Transistor

MMST2907A

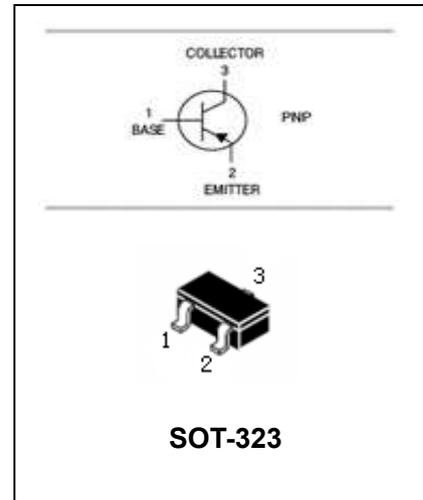
FEATURES

- Power dissipation.($P_C=200\text{mW}$)
- Epitaxial planar die construction.
- Complementary NPN type MMST2222A.



APPLICATIONS

- General purpose application.



ORDERING INFORMATION

| Type No. | Marking | Package Code |
|-----------|---------|--------------|
| MMST2907A | K3F | SOT-323 |

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

| Symbol | Parameter | Value | Units |
|-----------------|--|-------------|---------------------------|
| V_{CBO} | Collector-Base Voltage | -60 | V |
| V_{CEO} | Collector-Emitter Voltage | -60 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current -Continuous | -600 | mA |
| P_C | Collector Dissipation | 200 | mW |
| $R_{\theta JA}$ | Thermal Resistance,Junction to Ambient | 625 | $^\circ\text{C}/\text{W}$ |
| T_j, T_{stg} | Junction and Storage Temperature | -55 to +150 | $^\circ\text{C}$ |

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|--------------------------------------|---------------|--|-----|--------------|------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=-10\mu A, I_E=0$ | -60 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=-10mA, I_B=0$ | -60 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=-10\mu A, I_C=0$ | -5 | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=-50V, I_E=0$ | | -10 | nA |
| Collector cut-off current | I_{CEX} | $V_{CE}=-30V, V_{EB(OFF)}=-0.5V$ | | -50 | nA |
| Base cut-off current | I_{BL} | $V_{CE}=-30V, V_{EB(OFF)}=-0.5V$ | | -50 | nA |
| DC current gain | h_{FE} | $V_{CE}=-10V, I_C=-0.1mA$ | 75 | | |
| | | $V_{CE}=-10V, I_C=-1.0mA$ | 100 | | |
| | | $V_{CE}=-10V, I_C=-10mA$ | 100 | | |
| | | $V_{CE}=-10V, I_C=-150mA$ | 100 | 300 | |
| | | $V_{CE}=-10V, I_C=-500mA$ | 50 | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-150mA, I_B=-15mA$ $I_C=-500mA, I_B=-50mA$ | | -0.4 -1.6 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=-150mA, I_B=-15mA$ $I_C=-500mA, I_B=-50mA$ | | -1.3 -2.6 | V |
| Transition frequency | f_T | $V_{CE}=-20V, I_C=-50mA$ $f=100MHz$ | 200 | | MHz |
| Collector output capacitance | C_{obo} | $V_{CB}=-10V, I_E=0, f=1MHz$ | | 8 | pF |
| Collector input capacitance | C_{ibo} | $V_{EB}=-2.0V, I_C=0, f=1MHz$ | | 30 | pF |
| Turn-on time | t_{on} | $V_{CC}=-30V, I_C=-150mA,$ $I_{B1}=-15mA$ | | 45 | nS |
| Delay time | t_d | | | 10 | nS |
| Rise time | t_r | | | 40 | nS |
| Turn-off time | t_{off} | $V_{CC}=-6.0V, I_C=-150mA,$ $I_{B1}=I_{B2}=-15mA$ | | 100 | nS |
| Storage time | t_s | | | 80 | nS |
| Fall time | t_f | | | 30 | nS |

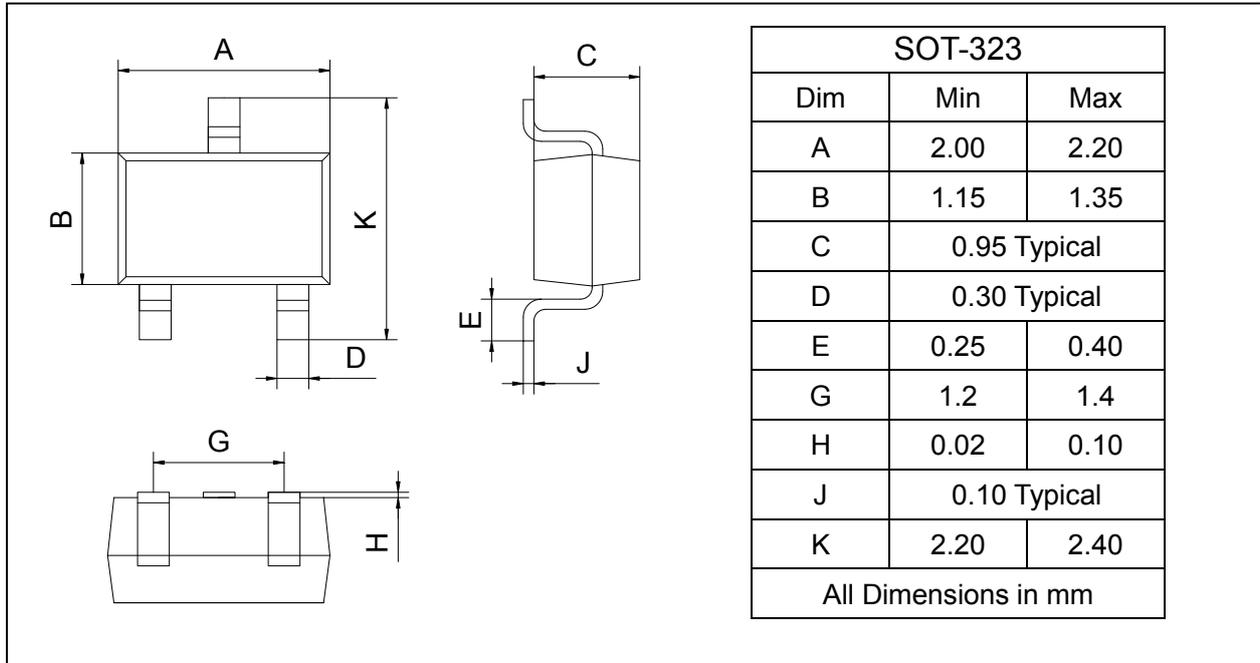
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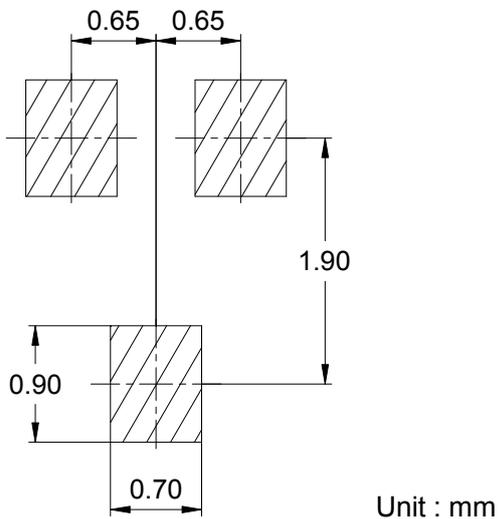
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



PACKAGE INFORMATION

| Device | Package | Shipping |
|-----------|---------|----------------|
| MMST2907A | SOT-323 | 3000/Tape&Reel |