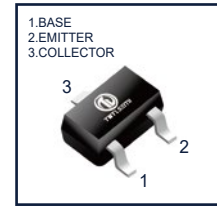
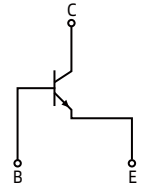


## Features

- Complementary to MMST4403W
- Small Surface Mount Package



SOT-323



Equivalent Circuit

## Absolute Maximum Ratings( $T_A=25^{\circ}\text{C}$ )

| Symbol          | Parameter                                        | Value      | Unit                 |
|-----------------|--------------------------------------------------|------------|----------------------|
| $V_{CB0}$       | Collector-Base Voltage                           | 60         | V                    |
| $V_{CE0}$       | Collector-Emitter Voltage                        | 40         | V                    |
| $V_{EB0}$       | Emitter-Base Voltage                             | 6          | V                    |
| $I_C$           | Collector Current                                | 0.6        | A                    |
| $P_C$           | Collector Power Dissipation                      | 200        | mW                   |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient      | 625        | $^{\circ}\text{C/W}$ |
| $T_J, T_{stg}$  | Operation Junction And Storage Temperature Range | -55 ~ +150 | $^{\circ}\text{C}$   |

## Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

| Symbol        | Parameter                            | Test conditions                                       | Min  | Typ | Max  | Unit |
|---------------|--------------------------------------|-------------------------------------------------------|------|-----|------|------|
| $V_{(BR)CBO}$ | Collector-base breakdown voltage     | $I_C=100\mu\text{A}, I_E=0$                           | 60   |     |      | V    |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage  | $I_C=1\mu\text{A}, I_B=0$                             | 40   |     |      | V    |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage       | $I_E=100\mu\text{A}, I_C=0$                           | 6    |     |      | V    |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB}=35\text{V}, I_E=0$                            |      |     | 100  | nA   |
| $I_{CEO}$     | Collector cut-off current            | $V_{CE}=35\text{V}, I_B=0$                            |      |     | 500  | nA   |
| $h_{FE}$      | DC current gain                      | $V_{CE}=1\text{V}, I_C=100\mu\text{A}$                | 20   |     |      |      |
|               |                                      | $V_{CE}=1\text{V}, I_C=1\text{mA}$                    | 40   |     |      |      |
|               |                                      | $V_{CE}=1\text{V}, I_C=10\text{mA}$                   | 80   |     |      |      |
|               |                                      | $V_{CE}=1\text{V}, I_C=150\text{mA}$                  | 100  |     | 300  |      |
|               |                                      | $V_{CE}=2\text{V}, I_C=500\text{mA}$                  | 40   |     |      |      |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | $I_C=150\text{mA}, I_B=15\text{mA}$                   |      |     | 0.4  | V    |
|               |                                      | $I_C=500\text{mA}, I_B=50\text{mA}$                   |      |     | 0.75 | V    |
| $V_{BE(sat)}$ | Base-emitter saturation voltage      | $I_C=150\text{mA}, I_B=15\text{mA}$                   | 0.75 |     | 0.95 | V    |
|               |                                      | $I_C=500\text{mA}, I_B=50\text{mA}$                   |      |     | 1.2  | V    |
| $f_T$         | Transition frequency                 | $V_{CE}=10\text{V}, I_C=20\text{mA}, f=100\text{MHz}$ | 250  |     |      | MHz  |
| $C_{ob}$      | Collector output capacitance         | $V_{CB}=5\text{V}, I_E=0, f=1\text{MHz}$              |      |     | 6.5  | pF   |

## Ordering information

| Product ID | Pack    | Naming rule                                                                                                                                                           | Marking | $h_{FE}(1)$ | Qty(PCS) |
|------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|----------|
| MMST4401   | SOT-323 | <div style="border: 1px solid black; padding: 5px; display: inline-block;"> MMST4401 </div><br><div style="text-align: center;"> ↓<br/> 产品名称<br/> product name </div> | K3X     | 100-300     | 3000     |



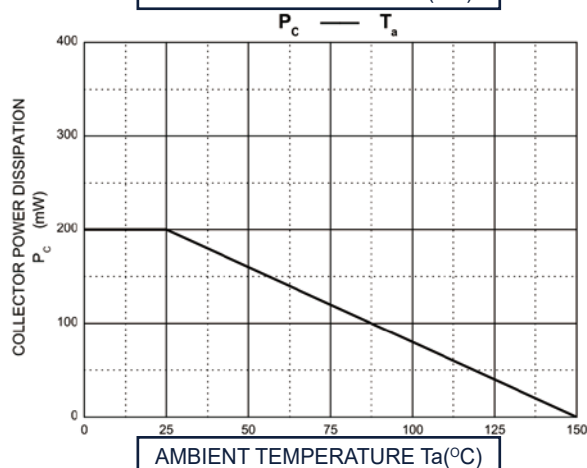
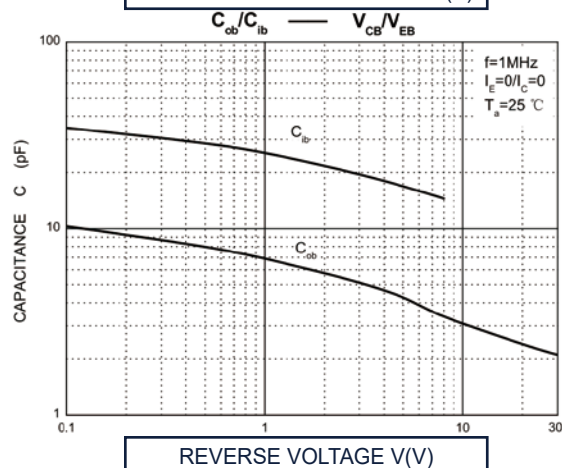
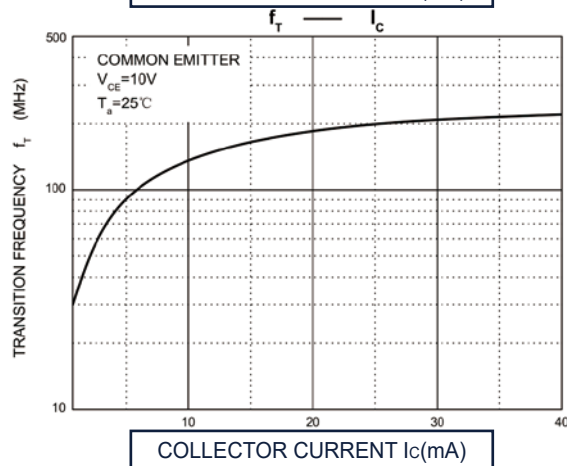
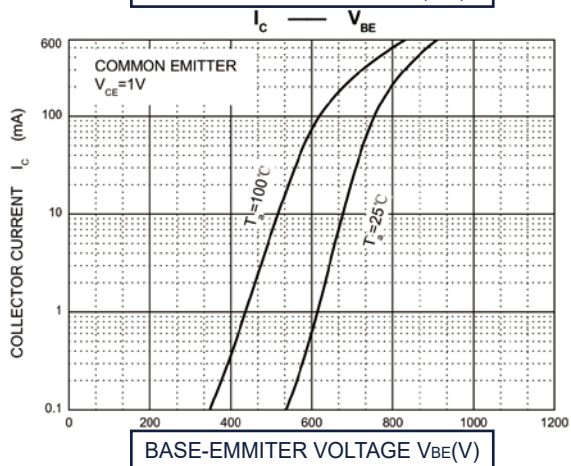
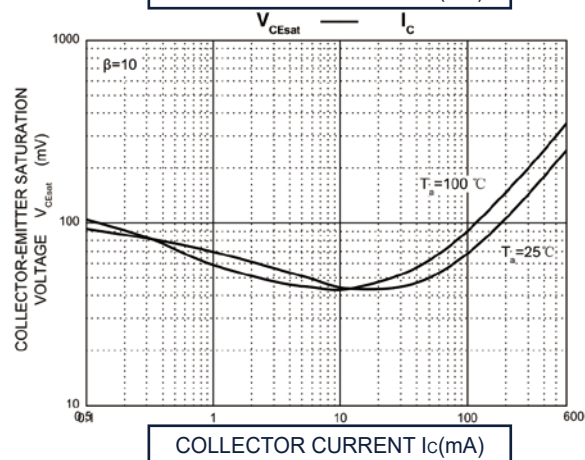
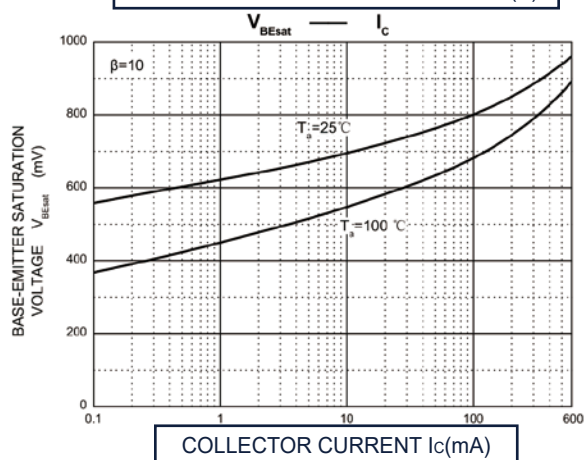
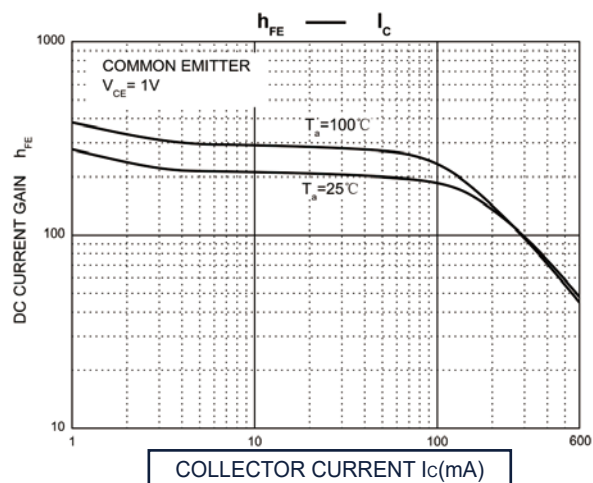
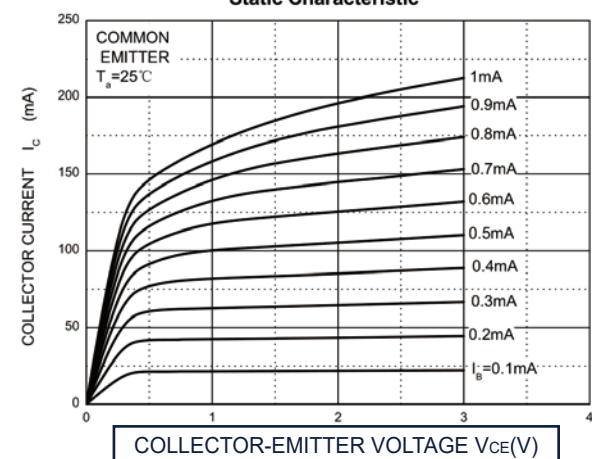
TWTLSEMI

## TL-MMST4401

SOT-323 Plastic-Encapsulate Transistors (NPN)

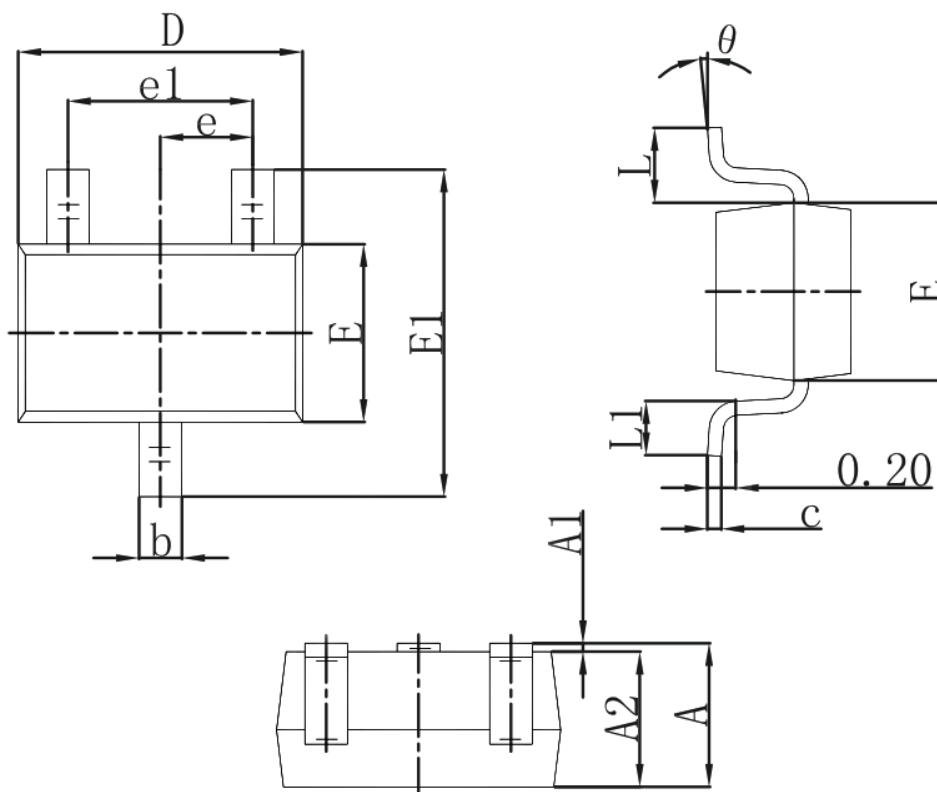
## Typical Characteristics

Static Characteristic





## SOT-323 Package Outline Dimensions



| Symbol   | Dimensions in Millimeters |       | Dimensions In Inches |       |
|----------|---------------------------|-------|----------------------|-------|
|          | Min                       | Max   | Min                  | Max   |
| A        | 0.900                     | 1.100 | 0.035                | 0.043 |
| A1       | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2       | 0.900                     | 1.000 | 0.035                | 0.039 |
| b        | 0.200                     | 0.400 | 0.008                | 0.016 |
| c        | 0.080                     | 0.150 | 0.003                | 0.006 |
| D        | 2.000                     | 2.200 | 0.079                | 0.087 |
| E        | 1.150                     | 1.350 | 0.045                | 0.053 |
| E1       | 1.350                     | 2.450 | 0.085                | 0.096 |
| e        | 0.650 TYP                 |       | 0.026 TYP            |       |
| e1       | 1.200                     | 1.400 | 0.047                | 0.055 |
| L        | 0.525 REF                 |       | 0.021 REF            |       |
| L1       | 0.260                     | 0.460 | 0.010                | 0.018 |
| $\theta$ | 0°                        | 8°    | 0°                   | 8°    |