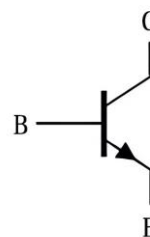


### Features

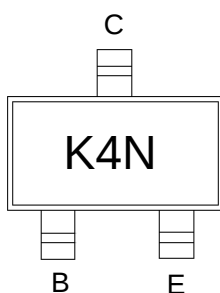
- Complementary to MMST5401
- Small Surface Mount Package
- Ideal for Medium Power Amplification and Switching



SOT-323 top view



Schematic diagram



Marking and pin assignment



Pb-Free



Halogen-Free

### Maximum Ratings (Ta=25°C unless otherwise noted)

| Symbol          | Parameter                                        | Value    | Unit |
|-----------------|--------------------------------------------------|----------|------|
| $V_{CBO}$       | Collector-Base Voltage                           | 180      | V    |
| $V_{CEO}$       | Collector-Emitter Voltage                        | 160      | V    |
| $V_{EBO}$       | Emitter-Base Voltage                             | 6        | V    |
| $I_C$           | Collector Current                                | 600      | mA   |
| $P_C$           | Collector Power Dissipation                      | 200      | mW   |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient      | 625      | °C/W |
| $T_J, T_{stg}$  | Operation Junction and Storage Temperature Range | -55~+150 | °C   |

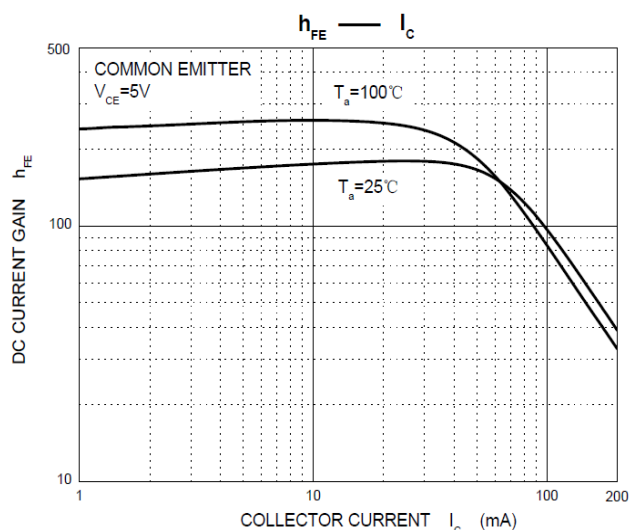
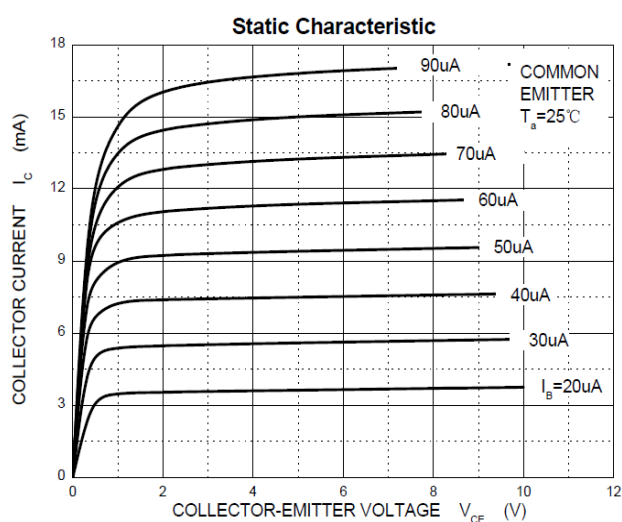
### Ordering Information (Example)

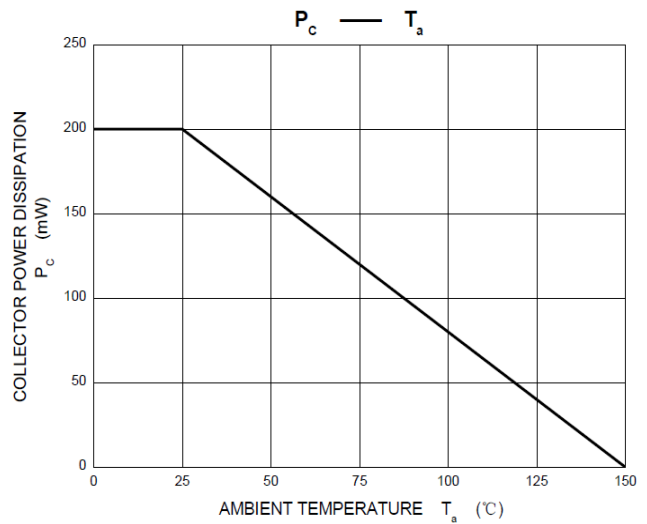
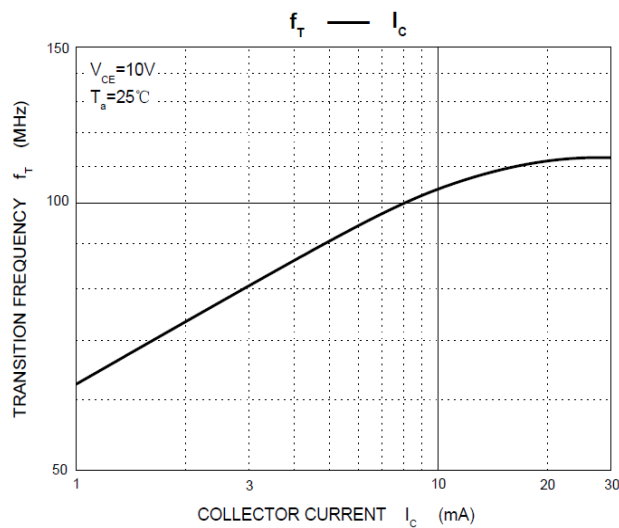
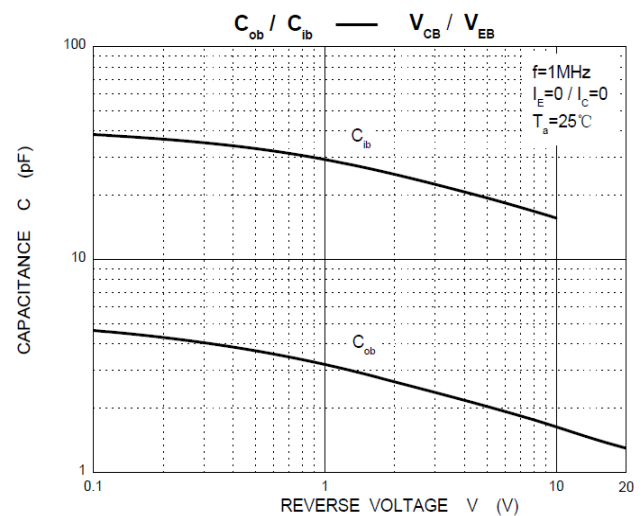
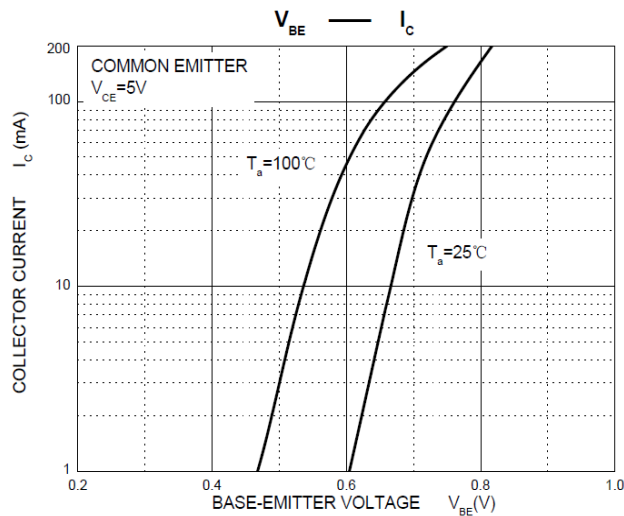
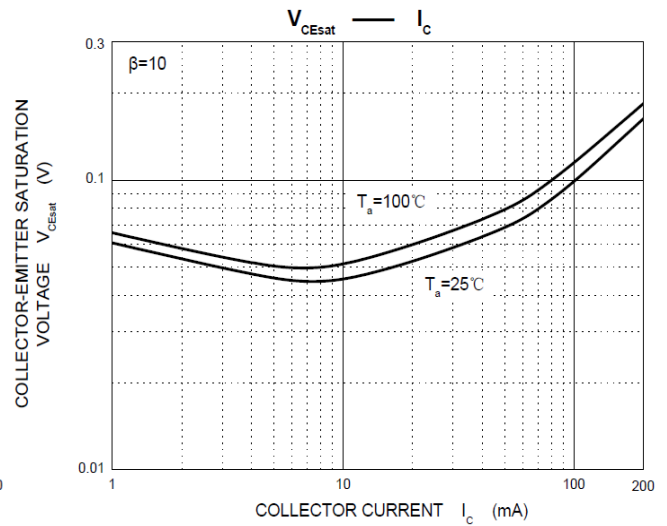
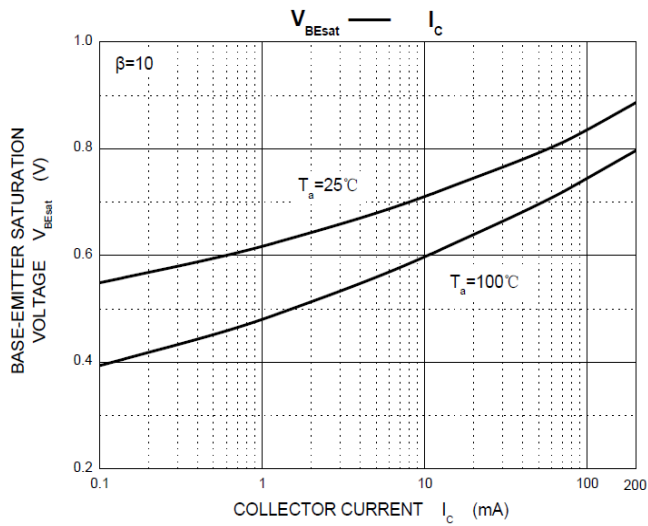
| Type     | Package | Marking | Minimum Package(pcs) | Inner Box Quantity(pcs) | Outer Carton Quantity(pcs) | Delivery Mode |
|----------|---------|---------|----------------------|-------------------------|----------------------------|---------------|
| MMST5551 | SOT-323 | K4N     | 3,000                | 45,000                  | 180,000                    | 7"reel        |

**Electrical Characteristics (Ta=25°C unless otherwise specified)**

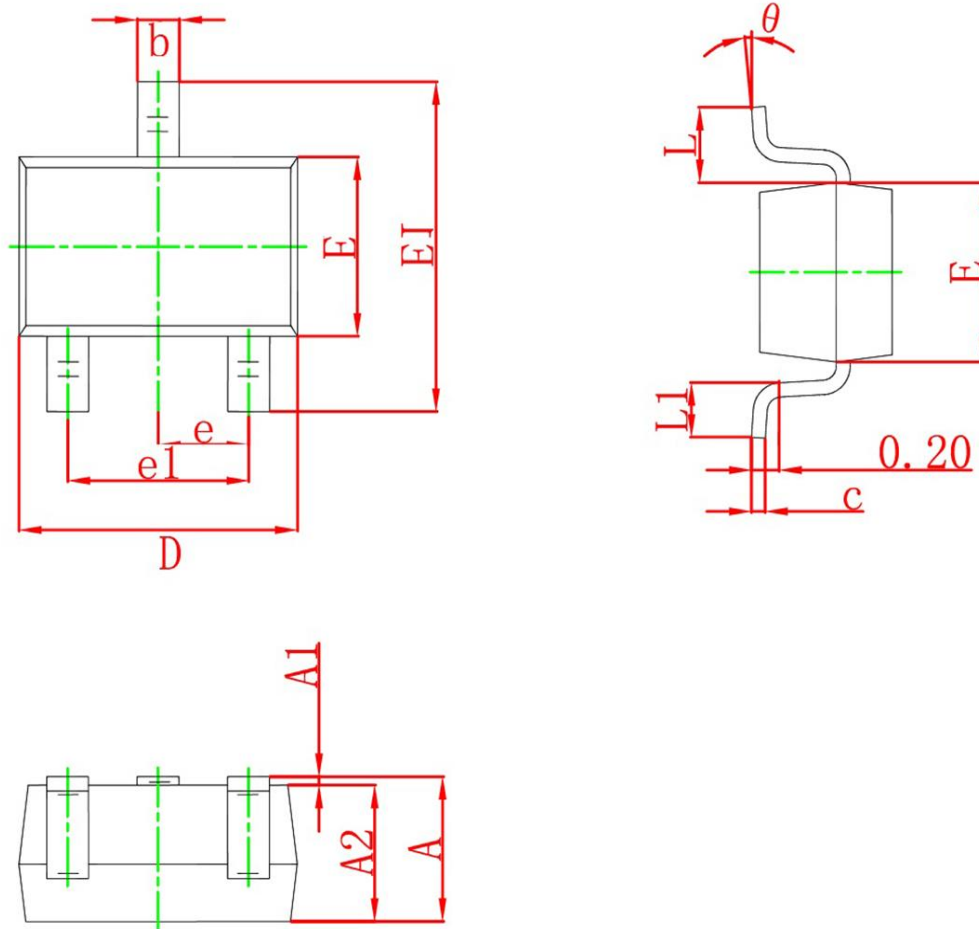
| Symbol          | Parameter                            | Condition                        | Min | Typ | Max  | Unit |
|-----------------|--------------------------------------|----------------------------------|-----|-----|------|------|
| $V_{(BR)CBO}$   | Collector-base breakdown voltage     | $I_C=100\mu A, I_E=0$            | 180 | --  | --   | V    |
| $V_{(BR)CEO}^*$ | Collector-emitter breakdown voltage  | $I_C=1mA, I_B=0$                 | 160 | --  | --   | V    |
| $V_{(BR)EBO}$   | Emitter-base breakdown voltage       | $I_E=10\mu A, I_C=0$             | 6   | --  | --   | V    |
| $I_{CBO}$       | Collector cut-off current            | $V_{CB}=120V, I_E=0$             | --  | --  | 50   | nA   |
| $I_{CEO}$       | Collector cut-off current            | $V_{CE}=4V, I_C=0$               | --  | --  | 50   | nA   |
| $H_{FE}$        | DC current gain                      | $V_{CE}=5V, I_C=1mA$             | 80  | --  | --   | --   |
|                 |                                      | $V_{CE}=5V, I_C=10mA$            | 100 | --  | 300  |      |
|                 |                                      | $V_{CE}=5V, I_C=50mA$            | 30  | --  | --   |      |
| $V_{CE(sat)}$   | Collector-emitter saturation voltage | $I_C=50mA, I_B=5mA$              | --  | --  | 0.2  | V    |
|                 |                                      | $I_C=10mA, I_B=1mA$              | --  | --  | 0.15 | V    |
| $V_{BE(sat)}$   | Base-emitter saturation voltage      | $I_C=50mA, I_B=5mA$              | --  | --  | 1    | V    |
|                 |                                      | $I_C=10mA, I_B=1mA$              | --  | --  | 1    | V    |
| $f_T$           | Transition frequency                 | $V_{CE}=10V, I_C=10mA, f=100MHz$ | 100 | --  | 300  | MHz  |
| $C_{ob}$        | Collector output capacitance         | $V_{CB}=10V, I_E=0, f=1MHz$      | --  | --  | 6    | pF   |

\*Pulse test: pulse width  $\leq 300\mu s$ , duty cycles  $\leq 2.0\%$ .

**Typical Characteristics**




SOT-323 Package information



| Symbol   | Dimensions in Millimeters(mm) |       | 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       | 2.150                         | 2.450 | 0.085                | 0.096 |
| e        | 0.650TYP                      |       | 0.026TYP             |       |
| e1       | 1.200                         | 1.400 | 0.047                | 0.055 |
| L        | 0.525REF                      |       | 0.021REF             |       |
| L1       | 0.260                         | 0.460 | 0.010                | 0.018 |
| $\theta$ | 0°                            | 8°    | 0°                   | 8°    |