



Micro Commercial Components

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MMST2222A

NPN Plastic-Encapsulate Transistors

Features

- Power Dissipation: 0.2W
- Ultra-small surface mount package
- Marking: K3P
- Case Material: Molded Plastic. UL Flammability Classification Rating 94-0 and MSL Rating 1

Maximum Ratings

| Symbol | Rating | Rating | Unit |
|------------------|--|-------------|------|
| V _{CEO} | Collector-Emitter Voltage | 40 | V |
| V _{CBO} | Collector-Base Voltage | 75 | V |
| V _{EBO} | Emitter-Base Voltage | 6.0 | V |
| I _{CBO} | Collector Cut-off Current (V _{CB} =70V, I _E =0) | 100 | mA |
| I _{CEO} | Collector Cut-off Current (V _{CE} =35V, I _B =0) | 100 | mA |
| I _{EBO} | Emitter Cut-off Current (V _{EB} =3V, I _C =0) | 100 | mA |
| P _C | Power dissipation ⁽¹⁾ | 200 | mW |
| T _J | Junction Temperature | -55 to +150 | °C |
| T _{STG} | Storage Temperature | -55 to +150 | °C |

Electrical Characteristics @ 25°C Unless Otherwise Specified

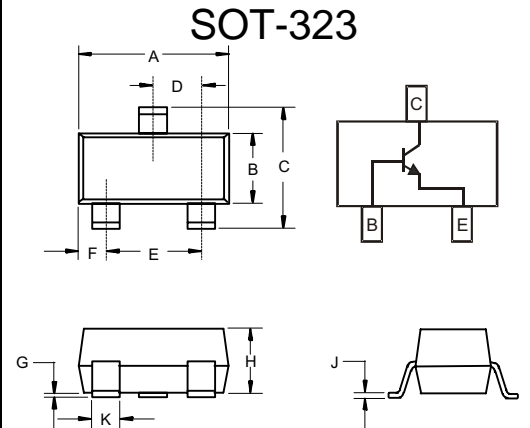
| Symbol | Parameter | Min | Max | Units |
|--------|-----------|-----|-----|-------|
|--------|-----------|-----|-----|-------|

OFF CHARACTERISTICS ⁽²⁾

| | | | | |
|----------------------|---|-----|-----|-----|
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage (I _C =1.0mA, I _B =0) | 40 | --- | Vdc |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage (I _C =10mA, I _E =0) | 75 | --- | Vdc |
| V _{(BR)EBO} | Collector-Emitter Breakdown Voltage (I _E =10mA, I _C =0) | 6.0 | --- | Vdc |

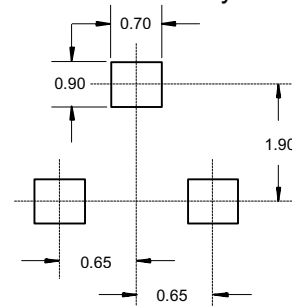
ON CHARACTERISTICS ⁽²⁾

| | | | | |
|----------------------|---|-----------|------------|-----|
| h _{FE} | DC Current Gain (I _C =150mA, V _{CE} =10Vdc) (I _C =1.0mA, V _{CE} =10Vdc) | 100 50 | 300 --- | --- |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage (I _C =500mA, I _B =50mA) | --- | 0.6 | Vdc |
| V _{BE(sat)} | Base-Emitter Saturation Voltage (I _C =500mA, I _B =50mA) | --- | 1.2 | Vdc |
| f _T | Transition Frequency (V _{CE} =20V, I _C =20mA, f=100MHz) | 300 | --- | Hz |
| C _{ob} | Output Capacitance (V _{CB} =10V, I _E =0mA, f=1MHz) | --- | 8 | pF |
| t _d | Delay Time (V _{CC} =30V, I _{CC} =150mA, V _{BE(off)} =0.5V, I _{B1} =15mA) | --- | 10 | ns |
| t _r | Rise Time (V _{CC} =30V, I _{CC} =150mA, V _{BE(off)} =0.5V, I _{B1} =15mA) | --- | 25 | ns |
| t _s | Storage Time (V _{CC} =30V, I _{CC} =150mA, I _{B1} =I _{B2} =15mA) | --- | 225 | ns |
| t _f | Fall Time (V _{CC} =30V, I _{CC} =150mA, I _{B1} =I _{B2} =15mA) | --- | 60 | ns |



| DIM | INCHES | | MM | | NOTE |
|-----|--------------|------|-------------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .071 | .087 | 1.80 | 2.20 | |
| B | .045 | .053 | 1.15 | 1.35 | |
| C | .079 | .087 | 2.00 | 2.20 | |
| D | .026 Nominal | | 0.65Nominal | | |
| E | .047 | .055 | 1.20 | 1.40 | |
| F | .012 | .016 | .30 | .40 | |
| G | .000 | .004 | .000 | .100 | |
| H | .035 | .039 | .90 | 1.00 | |
| J | .004 | .010 | .100 | .250 | |
| K | .012 | .016 | .30 | .40 | |

Suggested Solder Pad Layout





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Ordering Information

| | |
|------------------|----------------------|
| Device | Packing |
| (Part Number)-TP | Tape&Reel;3Kpcs/Reel |

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