

## KST42/43

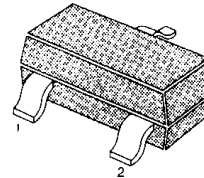
## NPN EPITAXIAL SILICON TRANSISTOR

### HIGH VOLTAGE TRANSISTOR

#### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25 °C)

| Characteristic                         | Symbol               | Rating | Unit  |
|----------------------------------------|----------------------|--------|-------|
| Collector Base Voltage                 | V <sub>CBO</sub>     | 300    | V     |
| :KST42                                 |                      | 200    | V     |
| :KST43                                 |                      |        |       |
| Collector-Emitter Voltage              | V <sub>CEO</sub>     | 300    | V     |
| :KST42                                 |                      | 200    | V     |
| :KST43                                 |                      |        |       |
| Emitter-Base Voltage                   | V <sub>EBO</sub>     | 6      | V     |
| Collector Current                      | I <sub>C</sub>       | 500    | mA    |
| Collector Dissipation                  | P <sub>C</sub>       | 350    | mW    |
| Storage Temperature                    | T <sub>STG</sub>     | 150    | °C    |
| Thermal Resistance junction to Ambient | R <sub>TH(j-a)</sub> | 357    | °C /w |

SOT-23



1. Base 2. Emitter 3. Collector

#### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25 °C)

| Characteristic                        | Symbol               | Test Conditions                            | Min | Max | Unit |
|---------------------------------------|----------------------|--------------------------------------------|-----|-----|------|
| Collector-Emitter Breakdown Voltage   | BV <sub>CBO</sub>    | I <sub>C</sub> =100 μA, I <sub>E</sub> =0  | 300 |     | V    |
| :KST42                                |                      |                                            | 200 |     | V    |
| :KST43                                |                      |                                            |     |     |      |
| *Collector -Emitter Breakdown Voltage | BV <sub>CEO</sub>    | I <sub>C</sub> =1mA, I <sub>B</sub> =0     | 300 |     | V    |
| :KST42                                |                      |                                            | 200 |     | V    |
| :KST43                                |                      |                                            | 6   |     | V    |
| Emitter-Base Breakdown Voltage        | BV <sub>EBO</sub>    | I <sub>E</sub> =100 μA, I <sub>C</sub> =0  |     |     | V    |
| Collector Cut-off Current             | I <sub>CBO</sub>     | V <sub>CE</sub> =200V, I <sub>E</sub> =0   |     | 0.1 | μA   |
| Emitter Cut-off Current               | I <sub>CEO</sub>     | V <sub>CE</sub> =5V, I <sub>C</sub> =0     |     | 0.1 | μA   |
| *DC Current Gain                      | h <sub>FE</sub>      | V <sub>CE</sub> =10V, I <sub>C</sub> =1mA  | 25  |     |      |
|                                       |                      | V <sub>CE</sub> =10V, I <sub>C</sub> =10mA | 40  |     |      |
|                                       |                      | V <sub>CE</sub> =10V, I <sub>C</sub> =30mA | 40  |     |      |
| *Collector-Emitter Saturation Voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =20mA, I <sub>B</sub> =2mA  |     | 0.5 | V    |
| *Base-Emitter Saturation Voltage      | V <sub>BE(sat)</sub> | I <sub>C</sub> =20mA, I <sub>B</sub> =2mA  |     | 0.9 | V    |
| Collector-Base Capacitance            | C <sub>CB</sub>      | V <sub>CB</sub> =20V, I <sub>E</sub> =0    |     | 3   | pF   |
| :KST42                                |                      | f=1MHz                                     |     | 4   | pF   |
| :KST43                                |                      |                                            |     |     |      |
| Current Gain Bandwidth Product        | f <sub>T</sub>       | V <sub>CE</sub> =20V, I <sub>C</sub> =10mA | 50  |     | MHz  |
|                                       |                      | f=100MHz                                   |     |     |      |

\*Pulse Test: PW ≤ 300 μs, Duty Cycle ≤ 2%

#### MARKING CODE

| TYPE | KST42 | KST43 |
|------|-------|-------|
| MARK | 1D    | 1E    |

#### Marking

