

## isc Silicon NPN Power Transistor

KSC3503

## DESCRIPTION

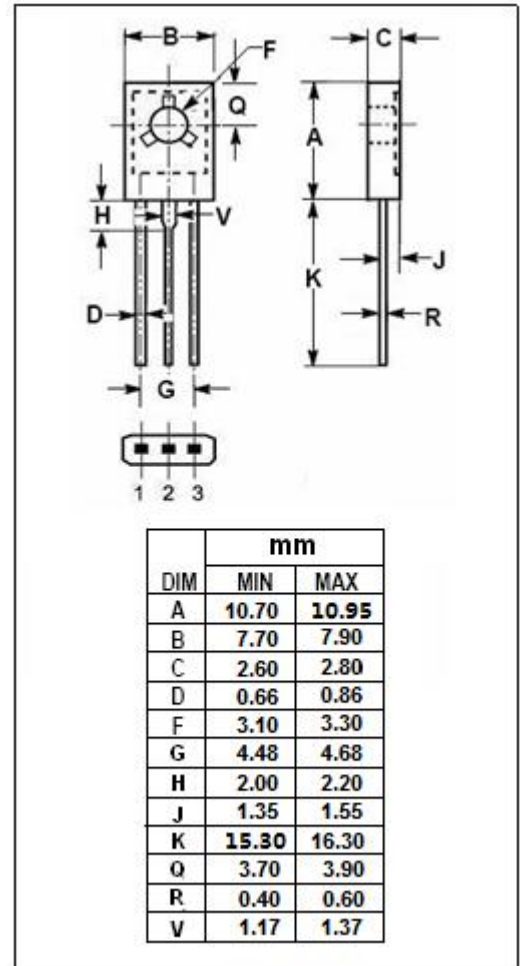
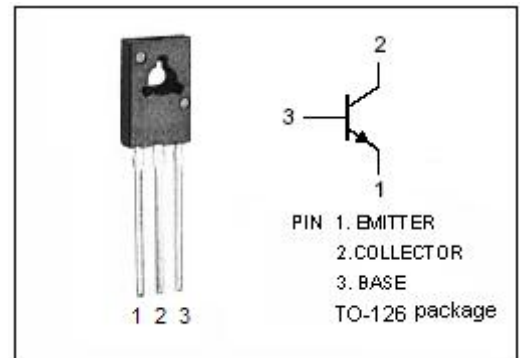
- Low Collector Saturation Voltage
- High breakdown voltage
- Silicon NPN epitaxial planar transistor
- Small reverse transfer capacitance and excellent high frequency characteristic
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- For high definition CRT display ,video output

ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

| SYMBOL    | PARAMETER   | VALUE   | UNIT               |
|-----------|---|---------|--------------------|
| $V_{CBO}$ | Collector-Base Voltage                                    | 300     | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage                                 | 300     | V                  |
| $V_{EBO}$ | Emitter-Base Voltage                                      | 5       | V                  |
| $I_C$     | Collector Current-Continuous                              | 0.1     | A                  |
| $P_C$     | Collector Power Dissipation<br>@ $T_c=25^{\circ}\text{C}$ | 7       | W                  |
| $T_J$     | Junction Temperature                                      | 150     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                                 | -55~150 | $^{\circ}\text{C}$ |



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## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

| SYMBOL               | PARAMETER                            | CONDITIONS                                    | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|---|-----|------|-----|------|
| V <sub>(BR)CBO</sub> | Collector-Base breakdown voltage     | I <sub>C</sub> =1mA ; I <sub>B</sub> =0       | 300 |      |     | V    |
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =10mA ; I <sub>B</sub> =0      | 300 |      |     | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =1mA ; I <sub>C</sub> =0       | 5   |      |     | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> =20mA; I <sub>B</sub> = 2mA    |     |      | 0.6 | V    |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> =20mA; I <sub>B</sub> = 2mA    |     |      | 1.0 | V    |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> = 300V ; I <sub>E</sub> = 0   |     |      | 1.0 | μ A  |
| I <sub>EBO</sub>     | Emitter Cutoff Current               | V <sub>EB</sub> = 5V; I <sub>C</sub> = 0      |     |      | 1.0 | μ A  |
| h <sub>FE</sub>      | DC Current Gain                      | I <sub>C</sub> = 10mA ; V <sub>CE</sub> = 10V | 40  |      | 320 |      |
| f <sub>T</sub>       | Current-Gain—Bandwidth Product       | I <sub>E</sub> = -10mA; V <sub>CE</sub> = 30V |     | 150  |     | MHz  |

◆ h<sub>FE</sub> Classifications

| C     | D      | E       | F       |
|-------|--------|---------|---------|
| 40-80 | 60-120 | 100-200 | 160-320 |

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