

## isc Silicon NPN Power Transistor

BFU520

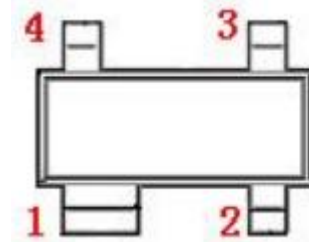
## DESCRIPTION

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 10V(\text{Min.})$
- Complement to Type BFU520
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for low frequency power amplifier applications.

SOT-143B

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

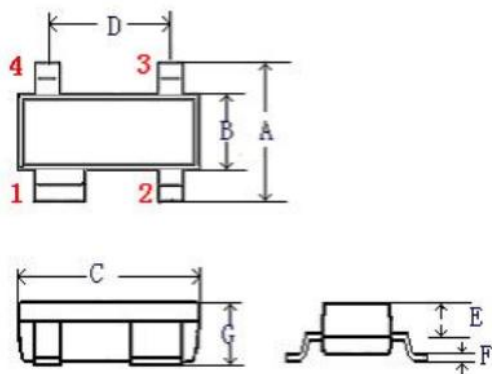
| SYMBOL    | PARAMETER                                               | VALUE   | UNIT             |
|-----------|---------------------------------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | 20      | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | 10      | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | 2.5     | V                |
| $I_C$     | Collector Current-Continuous                            | 0.12    | A                |
| $I_{CM}$  | Collector Current-Peak                                  | 0.48    | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^\circ\text{C}$ | 0.2     | W                |
| $T_J$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -65~150 | $^\circ\text{C}$ |

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**BFU520**
**ELECTRICAL CHARACTERISTICS**
 $T_c=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                        | CONDITIONS                                               | MIN | TYP. | MAX | UNIT          |
|---------------|----------------------------------|----------------------------------------------------------|-----|------|-----|---------------|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C = 1\ \mu\text{A}; I_E = 0$                          | 20  |      |     | V             |
| $I_{CBO}$     | Collector Cutoff Current         | $V_{CB} = 10\text{V}; I_E = 0$                           |     |      | 0.1 | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current           | $V_{EB} = 1\text{V}; I_C = 0$                            |     |      | 0.1 | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain                  | $I_C = 15\text{mA}; V_{CE} = 5\text{V}$                  | 90  | 150  | 250 |               |
| $C_{OB}$      | Output Capacitance               | $V_{CB} = 8\text{V}, I_E = 0\text{mA}, f = 1\text{MHz}$  |     | 0.65 |     | pF            |
| $f_T$         | Current-Gain—Bandwidth Product   | $V_{CE} = 8\text{V}, I_C = 40\text{mA}, f = 1\text{GHz}$ |     | 9    |     | GHz           |

**PACKAGE OUTLINE**

Dimensions in mm (1mm = 0.0394")



| DIM | mm   |      |
|-----|------|------|
|     | Min  | Max  |
| A   | 2.4  | 2.5  |
| B   | 1.2  | 1.4  |
| C   | 2.8  | 3    |
| D   | 1.9  |      |
| F   | 0.45 | 0.55 |
| G   | 0.09 | 0.15 |
| H   | 1.7  |      |

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