## FEATURES

Complimentary to S8050
Collector C urrent: IC = 0.5A


## ABSOLUTE MAXIMUM RATINGS at $\mathbf{T a}=\mathbf{2 5}{ }^{\circ} \mathrm{C}$

| Parameter | Symbol | Ratings | Unit |
| :--- | :---: | :---: | :---: |
| Collector to Base Voltage | $\mathrm{V}_{\text {CBO }}$ | -40 | V |
| Collector to Emitter Voltage | $\mathrm{V}_{\text {CEO }}$ | -25 | V |
| Emitter to Base Voltage | $\mathrm{V}_{\text {EBO }}$ | -5 | V |
| Collector Currrent | $\mathrm{I}_{\mathrm{C}}$ | -500 | mA |
| Total Power Dissipation | $\mathrm{P}_{\mathrm{D}}$ |  | 625 |
| Junction, Storage Temperature | $\mathrm{T}_{\mathrm{J},}, \mathrm{T}_{\text {STG }}$ |  | $+150,-55 \sim+150$ |
| ${ }^{\circ} \mathrm{CW}$ |  |  |  |

## ELECTRICAL CHARACTERISTICS $\left(\mathrm{T}_{\text {AMB }}=25^{\circ} \mathrm{C}\right.$ unless otherwise specified)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Collector-base Breakdown Voltage | $\mathrm{V}_{\text {(BR) }{ }^{\text {cbo }}}$ | -40 | - |  | V | $\mathrm{I}_{\mathrm{C}}=-100 \mu \mathrm{~A}, \mathrm{I}_{\mathrm{E}}=0$ |
| Collector-emitter Breakdown Voltage | $\mathrm{V}_{\text {(BR)CEO }}$ | -25 | - |  | V | $\mathrm{I}_{\mathrm{C}}=-1 \mathrm{~mA}, \mathrm{I}_{\mathrm{B}}=0$ |
| Emitter-base Breakdown Voltage | $\mathrm{V}_{\text {(BR)EBO }}$ | -5 | - | - | V | $\mathrm{I}_{\mathrm{E}}=-100 \mu \mathrm{~A}, \mathrm{I}_{\mathrm{C}}=0$ |
| Collector Cut-off Current | $\mathrm{I}_{\text {cbo }}$ | - | - | -0.1 | $\mu \mathrm{A}$ | $V_{C B}=-40 \mathrm{~V}, \mathrm{I}_{\mathrm{E}}=0$ |
| Collector Cut-off Current | $\mathrm{I}_{\text {CEO }}$ | - | - | -0.1 | $\mu \mathrm{A}$ | $V_{C E}=-20 \mathrm{~V}, \mathrm{I}_{\mathrm{B}}=0$ |
| Emitter Cut-off Current | $\mathrm{I}_{\text {Ebo }}$ | - | - | -0.1 | $\mu \mathrm{A}$ | $V_{E B}=-3 V, T_{C}=0$ |
| DC Current Gain | $\mathrm{h}_{\text {FE(1) }}$ | 85 | - | 400 |  | $\mathrm{V}_{C E}=-1 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=-50 \mathrm{~mA}$ |
|  | $\mathrm{hfE}_{\text {(2) }}$ | 50 | - | - |  | $\mathrm{V}_{C E}=-1 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=-500 \mathrm{~mA}$ |
| Collector-emitter Saturation Voltage | $\mathrm{V}_{\text {CE(sat) }}$ | - | - | -0.6 | V | $\mathrm{I}_{C}=-500 \mathrm{~mA}, \mathrm{I}_{\mathrm{B}}=-50 \mathrm{~mA}$ |
| Base-emitter Saturation Voltage | $\mathrm{V}_{\mathrm{BE} \text { (sat) }}$ | - | - | -1.2 | V | $\mathrm{I}_{C}=-500 \mathrm{~mA}, \mathrm{I}_{\mathrm{B}}=-50 \mathrm{~mA}$ |
| Transition Frequency | $\mathrm{f}_{T}$ | 150 | - | - | MHz | $V_{C E}=-6 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=-20 \mathrm{~mA}, \mathrm{f}=30 \mathrm{MHz}$ |

## CLASSIFICATION OF $\mathbf{h}_{\text {FE }}$

| Rank | B | C | $D$ |
| :---: | :---: | :---: | :---: |
| Range | $85-160$ | $120-200$ | $160-300$ |

## CHARACTERISTIC CURVES



Ic (mA),COLLECTOR CURRENT DC current Gain


Bace-Emitter Saturation Voltage Collector-Emitter Saturation Voltage


Current Gain Bandwidth Product

## X-ON Electronics

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