# TO-92 Plastic-Encapsulate Diodes

## S8050

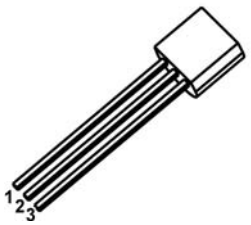
Features:

- Complement to S8550
- Collector Current: Ic=500mA
- High Total Power Dissipation: Pt=625m W

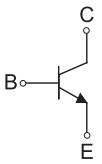
RoHS COMPLIANT

TO-92

1. EMITTER
2. BASE
3. COLLECTOR




Equivalent Circuit




## Absolute Maximum Ratings (Tamb=25℃)

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-Base Voltage | Vcbo | 40 | V |
| Collector-Emitter Voltage | Vceo | 25 | V |
| Emitter-Base Voltage | Vebo | 5 | V |
| Collector Current | Ic | 500 | mA |
| Collector Dissipation | Pc | 625 | mW |
| Junction Temperature | Tj | 150 | ℃ |
| Storage Temperature | Tstg | -55~150 | ℃ |

## Electrical Characteristics(Tamb=25℃)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | BVcbo | Ic=100uA, Ie=0 | 40 | | | V |
| Collector-Emitter Breakdown Voltage | BVceo | Ic =1mA, Ib=0 | 25 | | | V |
| Emitter-Base Breakdown Voltage | BVebo | Ie=100uA, Ic=0 | 5 | | | V |
| Collector Cutoff Current | Icbo | Vcb=25V, Ie=0 | | | 100 | nA |
| Emitter Cutoff Current | Iebo | Veb=3V, Ic=0 | | | 100 | nA |
| Collector-Emitter Saturation Voltage | $Vce_{(sat)}$ | Ic=500mA, Ib=50mA | | 0.16 | 0.6 | V |
| Base-Emitter Saturation Voltage | $Vbe_{(sat)}$ | Ic=500mA, Ib=50mA | | 0.91 | 1.2 | V |
| Base-Emitter On Voltage | $Vbe_{(on)}$ | Vce=1V, Ic=10mA | 0.6 | 0.67 | 0.7 | V |
| DC Current Gain | $Hfe_1$ | Vce=1V, Ic=50mA | 64 | 120 | 300 | |
| DC Current Gain | $Hfe_2$ | Vce=1V, Ic=500mA | 30 | | | |

## CLASSIFICATION OF Hfe

| CLASSIFICATION | B | C | D |
|---|---|---|---|
| $Hfe_1$ | 85-160 | 120-200 | 160-300 |