

Silicon NPN transistor epitaxial type C5902

[Applications]

CFL inverter driver

[Feature]

High current gain characteristic

Low collector-emitter saturation voltage $V_{CE(sat)} = 0.2V(\text{Max.})$ at $I_C/I_B = 500mA/50mA$

[Absolute maximum ratings (Ta=25C)]

| Characteristic | Symbol | Maximum ratings | Unit |
|----------------------------|--------|-----------------|------|
| Collector-base voltage | VCBO | 60 | V |
| Collector-emitter voltage | VCEO | 60 | V |
| Emitter-base voltage | VEBO | 7 | V |
| Collector current (DC) | IC | 5 | A |
| Collector current (Pulse*) | ICP | 8 | A |
| Junction temperature | Tj | 150 | C |
| Storage temperature | Tstg | -55 to 150 | C |

[Electrical characteristics (Ta=25C)]

| Characteristic | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|----------|------|------|------|------|----------------------------|
| Collector-base breakdown voltage | BVCBO | 60 | - | - | V | IC= 100uA |
| Collector-emitter breakdown voltage | BVCEO | 60 | - | - | V | IC= 1mA |
| Emitter-base breakdown voltage | BVEBO | 7 | - | - | V | IE= 10uA |
| Collector cut-off current | ICBO | - | - | 10 | uA | VCB= 50V |
| Emitter cut-off current | IEBO | - | - | 10 | uA | VEB= 7V |
| DC current gain 1 | hFE 1 | 60 | - | - | - | VCE= 1V, IC= 0.1A |
| DC current gain 2 | hFE 2 | 200 | - | 400 | - | VCE= 1V, IC= 2A |
| DC current gain 3 | hFE 3 | 50 | - | - | - | VCE= 1V, IC= 5A |
| Collector-emitter saturation voltage | VCE(sat) | - | 0.1 | 0.3 | V | IC= 2A, IB= 0.2A |
| Base-emitter saturation voltage | VBE(sat) | - | 0.9 | 1.2 | V | IC= 2A, IB= 0.2A |
| Transition frequency | fT | - | 70 | - | MHz | VCE= 10V, IE= -50mA |
| Collector output capacitance | Cob | - | 70 | - | pF | VCB= 10V, f = 1MHz, IE= 0A |
| Turn on time | ton | - | 0.2 | 1 | us | VCC= 10V, IC= 2A |
| Storage time | tstg | - | 1.1 | 2.5 | us | IB1= -IB2= 0.2A |
| Fall time | tf | - | 0.2 | 1 | us | |

Notice 1) These are measured data of transistors assembled by PHENITEC SEMICONDUCTOR Corp. and are for reference only.

Notice 2) The contents described herein are subject to change without notice.

