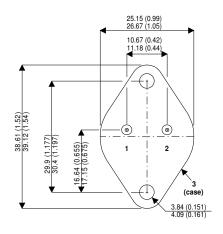
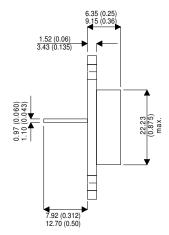
BDY28C



MECHANICAL DATA

Dimensions in mm (inches)





HIGH CURRENT NPN SILICON TRANSISTOR

FEATURES

- HIGH SWITCHING CURRENTS
- HIGH RELIABILITY
- CECC SCREENING OPTIONS
- SPACE QUALITY LEVEL OPTIONS
- JAN LEVEL SCREENING OPTIONS

APPLICATIONS

- SWITCHING REGULATORS
- LINEAR APPLICATIONS

TO3 (TO204AA)

Pin 1 = Base

Pin 2 = Emitter

Case = Collector

ABSOLUTE MAXIMUM RATINGS

| T _{CASE} = 25 °C unless otherwise stated | | | | | |
|---|------------------------------|---------------------------|----------------|--|--|
| V _{CBO} | Collector - Base Voltage | | 500V | | |
| V _{CEO} | Collector - Emitter Voltage | | 250V | | |
| V _{EBO} | Emitter – Base Voltage | 10V | | | |
| I _C | Continuous Collector Current | | 6A | | |
| I _B | Base Current | | ЗА | | |
| P _{tot} | Total Power Dissipation at | $T_{case} = 25 ^{\circ}C$ | 50W | | |
| | | Derate above 25 ℃ | 0.29W/℃ | | |
| T_{J} | Junction Temperature | | 200 <i>°</i> C | | |
| T _{stg} | Storage Temperature | | -65 to 200 ℃ | | |

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612. E-mail: <u>sales@semelab.co.uk</u> Website: <u>http://www.semelab.co.uk</u>



| THER | MAL CHARACTERISTICS | Max | Unit |
|------------------------|----------------------------|-----|------|
| R _{th} j-case | Thermal resistance to case | 3.5 | °C/W |

ELECTRICAL CHARACTERISTICS (T_{case}=25 °C unless otherwise stated)

| | Parameter | Test Conditions | | Min. | Тур. | Max. | Unit |
|------------------------|--------------------------------------|---------------------------|----------------------|------|------|------|------|
| I _{CEO} | Collector Cut-Off Current | $V_{CE} = 250V$ | $I_{\rm B} = 0$ | | | 1.0 | |
| I _{CES} | Collector Cut-Off Current | $V_{CE} = 400V$ | $V_{BE} = 0$ | | | 1.0 | mA |
| I _{EBO} | Emitter Cut-Off Current | $V_{EB} = 10V$ | $I_{\rm C} = 0$ | | | 1.0 | |
| V _{(BR)CEO} * | Collector-Emitter Breakdown Voltage | $I_{\rm C} = 50 {\rm mA}$ | $I_{\rm B} = 0$ | 220 | | | |
| V _{(BR)CBO} * | Collector-Base Breakdown Voltage | $I_{\rm C} = 3mA$ | | 500 | | | V |
| V _{CE(sat)} * | Collector-Emitter Saturation Voltage | $I_{\rm C} = 2.0 A$ | $I_{\rm B} = 0.25 A$ | | | 0.6 | v |
| V _{BE(sat)} * | Base-Emitter Saturation Voltage | $I_{\rm C} = 2.0 {\rm A}$ | $I_{B} = 0.25A$ | | | 1.2 | |
| h _{FE} * | Forward-current transfer ratio | I _C = 1.0A | $V_{CE} = 4.0V$ | | 90 | | |
| | | I _C = 2.0A | $V_{CE} = 4.0V$ | 75 | 82 | 180 | |

DYNAMIC CHARACTERISTICS

| C _{obo} | Output Capacitance | l _E = 0 f = 1.0MHz | $V_{CB} = 10V$ | | 65 | 120 | pF |
|------------------|----------------------|--------------------------------------|---------------------------|----|----|-----|-----|
| F⊤ | Transition Frequency | I _C = 0.5A f = 10.0MHz | $V_{CE} = 15V$ | 10 | | | MHz |
| T _{on} | Turn-on time | I _C = 5.0A | I _{B1} = 1.0A | | | 1.0 | |
| T _{off} | Turn-off time | I _C = 5.0A | $I_{B1} = -I_{B2} = 1.0A$ | | | 6.0 | μs |

* Pulse test t_p = 300µs, δ < 2%

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