

BCW68GLT1, BCW68GLT3G

General Purpose Transistor PNP Silicon

Features

- Pb-Free Package is Available

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--------------------------------|-----------|-------|------|
| Collector-Emitter Voltage | V_{CEO} | -45 | Vdc |
| Collector-Base Voltage | V_{CBO} | -60 | Vdc |
| Emitter-Base Voltage | V_{EBO} | -5.0 | Vdc |
| Collector Current - Continuous | I_C | -800 | mAdc |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

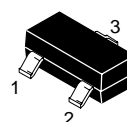
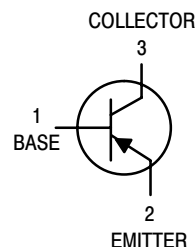
| Characteristic | Symbol | Max | Unit |
|---|-----------------|-------------|---------------------------|
| Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 225 | mW |
| | | 1.8 | mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 556 | $^\circ\text{C}/\text{W}$ |
| Total Device Dissipation Alumina Substrate (Note 2) $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 300 | mW |
| | | 2.4 | mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 417 | $^\circ\text{C}/\text{W}$ |
| Junction and Storage Temperature | T_J, T_{stg} | -55 to +150 | $^\circ\text{C}$ |

- FR-5 = $1.0 \times 0.75 \times 0.062$ in.
- Alumina = $0.4 \times 0.3 \times 0.024$ in 99.5% alumina.



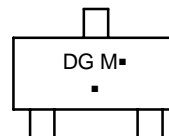
ON Semiconductor®

<http://onsemi.com>



SOT-23
CASE 318
STYLE 6

MARKING DIAGRAM



DG = Specific Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

| Device | Package | Shipping† |
|------------|---------------------|---------------------|
| BCW68GLT1 | SOT-23 | 3000 / Tape & Reel |
| BCW68GLT1G | SOT-23 (Pb-Free) | 3000 / Tape & Reel |
| BCW68GLT3G | SOT-23 (Pb-Free) | 10000 / Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

BCW68GLT1, BCW68GLT3G

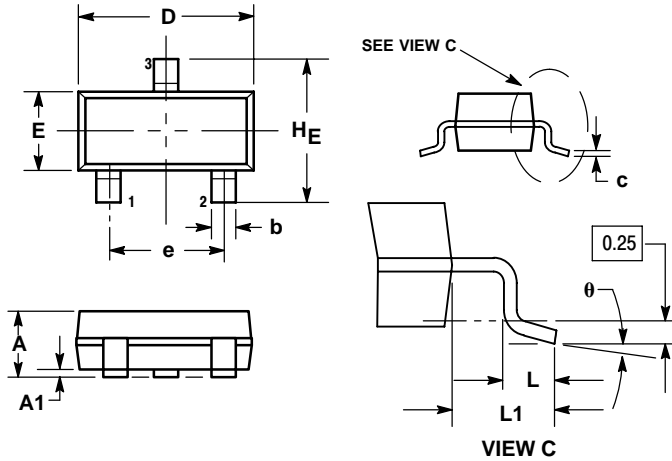
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|--|----------------------|------------------|-------------|---------------|--------------|
| OFF CHARACTERISTICS | | | | | |
| Collector-Emitter Breakdown Voltage (I _C = -10 mAdc, I _B = 0) | V _{(BR)CEO} | -45 | - | - | Vdc |
| Collector-Emitter Breakdown Voltage (I _C = -10 μAdc, V _{EB} = 0) | V _{(BR)CES} | -60 | - | - | Vdc |
| Emitter-Base Breakdown Voltage (I _E = -10 μAdc, I _C = 0) | V _{(BR)EBO} | -5.0 | - | - | Vdc |
| Collector Cutoff Current (V _{CE} = -45 Vdc, I _E = 0) (V _{CE} = -45 Vdc, I _B = 0, T _A = 150°C) | I _{CES} | - | - | -20 -10 | nAdc μAdc |
| Emitter Cutoff Current (V _{EB} = -4.0 Vdc, I _C = 0) | I _{EBO} | - | - | -20 | nAdc |
| ON CHARACTERISTICS | | | | | |
| DC Current Gain (I _C = -10 mAdc, V _{CE} = -1.0 Vdc) (I _C = -100 mAdc, V _{CE} = -1.0 Vdc) (I _C = -300 mAdc, V _{CE} = -1.0 Vdc) | h _{FE} | 120 160 60 | - - - | 400 - - | - |
| Collector-Emitter Saturation Voltage (I _C = -300 mAdc, I _B = -30 mAdc) | V _{CE(sat)} | - | - | -1.5 | Vdc |
| Base-Emitter Saturation Voltage (I _C = -500 mAdc, I _B = -50 mAdc) | V _{BE(sat)} | - | - | -2.0 | Vdc |
| SMALL-SIGNAL CHARACTERISTICS | | | | | |
| Current-Gain – Bandwidth Product (I _C = -20 mAdc, V _{CE} = -10 Vdc, f = 100 MHz) | f _T | 100 | - | - | MHz |
| Output Capacitance (V _{CB} = -10 Vdc, I _E = 0, f = 1.0 MHz) | C _{obo} | - | - | 18 | pF |
| Input Capacitance (V _{EB} = -0.5 Vdc, I _C = 0, f = 1.0 MHz) | C _{ibo} | - | - | 105 | pF |
| Noise Figure (I _C = -0.2 mAdc, V _{CE} = -5.0 Vdc, R _S = 1.0 kΩ, f = 1.0 kHz, BW = 200 Hz) | N _F | - | - | 10 | dB |

BCW68GLT1, BCW68GLT3G

PACKAGE DIMENSIONS

SOT-23 (TO-236)
CASE 318-08
ISSUE AN



NOTES:

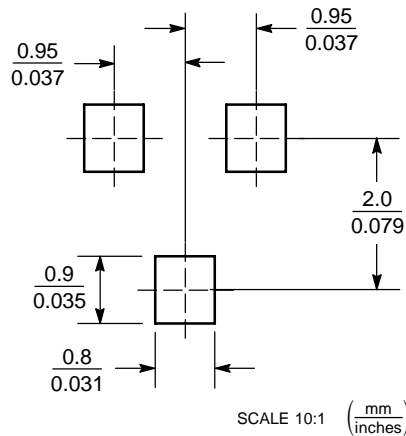
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.89 | 1.00 | 1.11 | 0.035 | 0.040 | 0.044 |
| A1 | 0.01 | 0.06 | 0.10 | 0.001 | 0.002 | 0.004 |
| b | 0.37 | 0.44 | 0.50 | 0.015 | 0.018 | 0.020 |
| c | 0.09 | 0.13 | 0.18 | 0.003 | 0.005 | 0.007 |
| D | 2.80 | 2.90 | 3.04 | 0.110 | 0.114 | 0.120 |
| E | 1.20 | 1.30 | 1.40 | 0.047 | 0.051 | 0.055 |
| e | 1.78 | 1.90 | 2.04 | 0.070 | 0.075 | 0.081 |
| L | 0.10 | 0.20 | 0.30 | 0.004 | 0.008 | 0.012 |
| L1 | 0.35 | 0.54 | 0.69 | 0.014 | 0.021 | 0.029 |
| HE | 2.10 | 2.40 | 2.64 | 0.083 | 0.094 | 0.104 |

STYLE 6:

1. BASE
2. EMITTER
3. COLLECTOR

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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