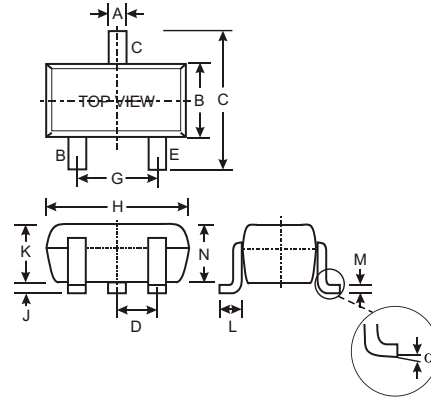


Features

- Ultra Miniature Surface Mount Package
- Complementary PNP Type Available (2DA1774Q,R,S)

Mechanical Data

- Case: SOT-523, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See diagram
- Marking (See Page 2): 2DC4617Q: 8D
2DC4617R: 8E
2DC4617S: 8F
- Ordering & Date Code Information: See Page 2
- Weight: 0.002 grams (approx.)



| SOT-523 | | | |
|----------------------|------|------|------|
| Dim | Min | Max | Typ |
| A | 0.15 | 0.30 | 0.22 |
| B | 0.75 | 0.85 | 0.80 |
| C | 1.45 | 1.75 | 1.60 |
| D | — | — | 0.50 |
| G | 0.90 | 1.10 | 1.00 |
| H | 1.50 | 1.70 | 1.60 |
| J | 0.00 | 0.10 | 0.05 |
| K | 0.60 | 0.80 | 0.75 |
| L | 0.10 | 0.30 | 0.22 |
| M | 0.10 | 0.20 | 0.12 |
| N | 0.45 | 0.65 | 0.50 |
| α | 0° | 8° | — |
| All Dimensions in mm | | | |

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | 2DC4617Q/R/S | Unit |
|--|-----------------|--------------|--------------------|
| Collector-Base Voltage | V_{CBO} | 60 | V |
| Collector-Emitter Voltage | V_{CEO} | 50 | V |
| Emitter-Base Voltage | V_{EBO} | 7.0 | V |
| Collector Current - Continuous (Note 1) | I_C | 150 | mA |
| Power Dissipation (Note 1) | P_d | 150 | mW |
| Thermal Resistance, Junction to Ambient (Note 1) | $R_{\theta JA}$ | 833 | $^\circ\text{C/W}$ |
| Operating and Storage and Temperature Range | T_j, T_{STG} | -55 to +150 | $^\circ\text{C}$ |

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

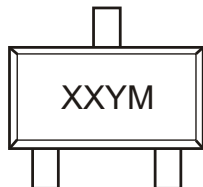
| Characteristic | Symbol | Min | Max | Unit | Test Condition | |
|--------------------------------------|----------------------------------|----------|-------------------|-------------------|---|--|
| OFF CHARACTERISTICS (Note 2) | | | | | | |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 60 | — | V | $I_C = 50\mu\text{A}, I_E = 0$ | |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 50 | — | V | $I_C = 1.0\text{mA}, I_B = 0$ | |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 7.0 | — | V | $I_E = 50\mu\text{A}, I_C = 0$ | |
| Collector Cutoff Current | I_{CBO} | — | 100 | nA | $V_{CB} = 60\text{V}$ | |
| Emitter Cutoff Current | I_{EBO} | — | 100 | nA | $V_{EB} = 7.0\text{V}$ | |
| ON CHARACTERISTICS (Note 2) | | | | | | |
| DC Current Gain | 2DC4617Q 2DC4617R 2DC4617S | h_{FE} | 120 180 270 | 270 390 560 | — | $V_{CE} = 6.0\text{V}, I_C = 1.0\text{mA}$ |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | — | 0.4 | V | $I_C = 50\text{mA}, I_B = 5.0\text{mA}$ | |
| SMALL SIGNAL CHARACTERISTICS | | | | | | |
| Output Capacitance | C_{obo} | 2.0 Typ. | 3.5 | pF | $V_{CB} = 12\text{V}, f = 1.0\text{MHz}, I_E = 0$ | |
| Current Gain-Bandwidth Product | f_T | 180 Typ. | — | MHz | $V_{CE} = 12\text{V}, I_E = -2\text{mA}, f = 1\text{MHz}$ | |

- Notes:
1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. Short duration pulse test used to minimize self-heating effect.

Ordering Information (Note 3)

| Device | Packaging | Shipping |
|------------|-----------|------------------|
| 2DC4617Q-7 | SOT-523 | 3000/Tape & Reel |
| 2DC4617R-7 | SOT-523 | 3000/Tape & Reel |
| 2DC4617S-7 | SOT-523 | 3000/Tape & Reel |

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

XX = Product Type Marking Code (See Page 1, e.g. 8D = 2DC4617Q)
 YM = Date Code Marking
 Y = Year (ex: N = 2002)
 M = Month (ex: 9 = September)

Date Code Key

| Year | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------|------|------|------|------|------|------|------|
| Code | J | K | L | M | N | P | R |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |