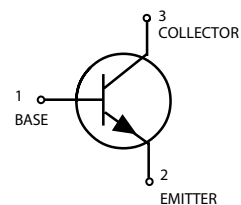


**Absolute maximum ratings** (Ta=25 °C)

| Parameter                   | Symbol    | Limits    | Unit |
|-----------------------------|-----------|-----------|------|
| Collector-base voltage      | $V_{CBO}$ | 20        | V    |
| Collector-emitter voltage   | $V_{CEO}$ | 11        | V    |
| Emitter-base voltage        | $V_{EBO}$ | 3         | V    |
| Collector current           | $I_C$     | 50        | mA   |
| Collector power dissipation | $P_C$     | 0.15      | W    |
| Junction temperature        | $T_j$     | 150       | °C   |
| Storage temperature         | $T_{stg}$ | - 55~+150 | °C   |



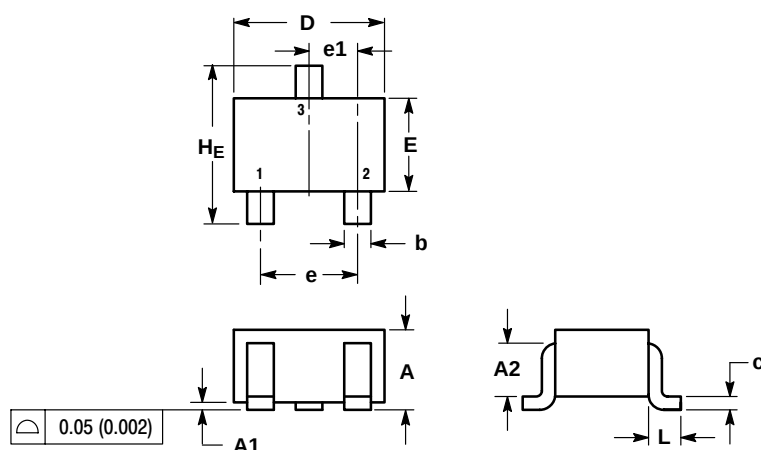
**Ordering nformation**

| Device       | Marking | Shipping       |
|--------------|---------|----------------|
| 2SC4083PWT1G | 1D      | 3000/Tape&Reel |

**Electrical characteristics** (Ta=25 °C)

| Parameter                            | Symbol              | Min. | Typ. | Max. | Unit | Conditions                                           |
|--------------------------------------|---------------------|------|------|------|------|------------------------------------------------------|
| Collector-base breakdown voltage     | $BV_{CBO}$          | 20   |      |      | V    | $I_C = 10\mu A$                                      |
| Collector-emitter breakdown voltage  | $BV_{CEO}$          | 11   |      |      | V    | $I_C = 1mA$                                          |
| Emitter-base breakdown voltage       | $BV_{EBO}$          | 3    |      |      | V    | $I_E = 10\mu A$                                      |
| Collector cutoff current             | $I_{CBO}$           |      |      | 0.5  | uA   | $V_{CB} = 10V$                                       |
| Emitter cutoff current               | $I_{EBO}$           |      |      | 0.5  | uA   | $V_{EB} = 2V$                                        |
| Collector-emitter saturation voltage | $V_{CE(sat)}$       |      |      | 0.5  | V    | $I_C/I_B = 10mA/5mA$                                 |
| DC current transfer ratio            | $h_{FE}$            | 82   |      | 180  |      | $V_{CE}/I_C = 10V/5mA$                               |
| Transition frequency                 | $f_T$               | 1.4  | 3.2  |      | GHz  | $V_{CB} = 10V, I_C = 10mA, f = 500MHz$               |
| Output capacitance                   | $C_{ob}$            |      | 0.8  | 1.5  | pF   | $V_{CB} = 10V, I_E = 0A, f = 1MHz$                   |
| Collector-base time constant         | $r_{bb'} \cdot C_c$ |      | 4    | 12   | ps   | $V_{CB} = 10V, I_C = 10mA, f = 31.8MHz$              |
| Noise factor                         | NF                  |      | 3.5  |      | dB   | $V_{CE} = 6V, I_C = 2mA, f = 500MHz, R_g = 50\Omega$ |

## SC-70



### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

| DIM | MILLIMETERS |      |      | INCHES    |       |       |
|-----|-------------|------|------|-----------|-------|-------|
|     | MIN         | NOM  | MAX  | MIN       | NOM   | MAX   |
| A   | 0.80        | 0.90 | 1.00 | 0.032     | 0.035 | 0.040 |
| A1  | 0.00        | 0.05 | 0.10 | 0.000     | 0.002 | 0.004 |
| A2  | 0.7 REF     |      |      | 0.028 REF |       |       |
| b   | 0.30        | 0.35 | 0.40 | 0.012     | 0.014 | 0.016 |
| c   | 0.10        | 0.18 | 0.25 | 0.004     | 0.007 | 0.010 |
| D   | 1.80        | 2.10 | 2.20 | 0.071     | 0.083 | 0.087 |
| E   | 1.15        | 1.24 | 1.35 | 0.045     | 0.049 | 0.053 |
| e   | 1.20        | 1.30 | 1.40 | 0.047     | 0.051 | 0.055 |
| e1  | 0.65 BSC    |      |      | 0.026 BSC |       |       |
| L   | 0.425 REF   |      |      | 0.017 REF |       |       |
| HE  | 2.00        | 2.10 | 2.40 | 0.079     | 0.083 | 0.095 |

### SOLDERING FOOTPRINT\*

