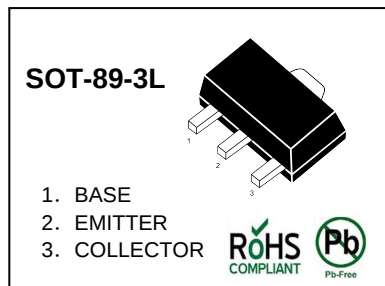


### Silicon NPN Epitaxial

#### Application

- Low frequency power amplifier
- Complementary pair with 2SB1002



#### Absolute Maximum Ratings

(Ta = 25°C)

| Item                         | Symbol             | Ratings     | Unit |
|------------------------------|--------------------|-------------|------|
| Collector to base voltage    | $V_{CBO}$          | 100         | V    |
| Collector to emitter voltage | $V_{CEO}$          | 50          | V    |
| Emitter to base voltage      | $V_{EBO}$          | 6           | V    |
| Collector current            | $I_C$              | 1           | A    |
| Collector peak current       | $i_{C(peak)}^{*1}$ | 1.5         | A    |
| Collector power dissipation  | $P_C^{*2}$         | 1           | W    |
| Junction temperature         | $T_J$              | 150         | °C   |
| Storage temperature          | $T_{stg}$          | -55 to +150 | °C   |

Notes: 1.  $PW \leq 10$  ms, Duty cycle  $\leq 20\%$   
2. Value on the alumina ceramic board (12.5 x 20 x 0.7 mm)

#### Electrical Characteristics

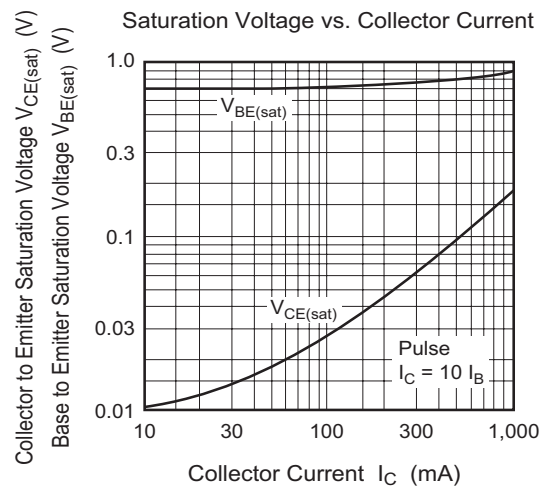
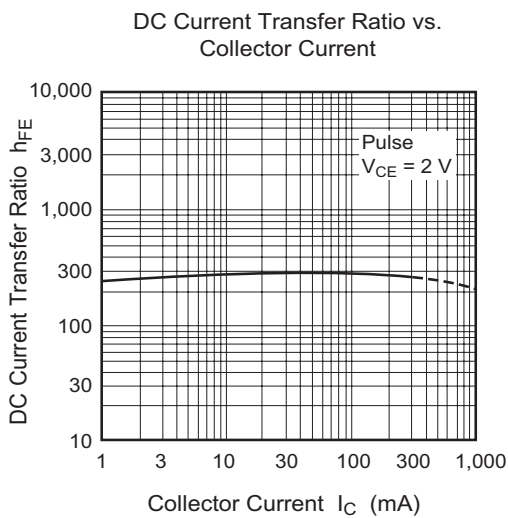
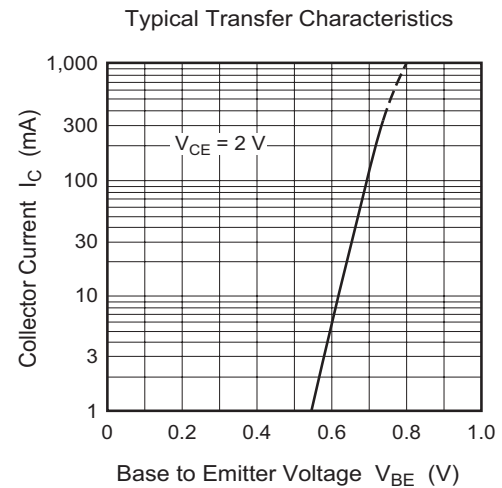
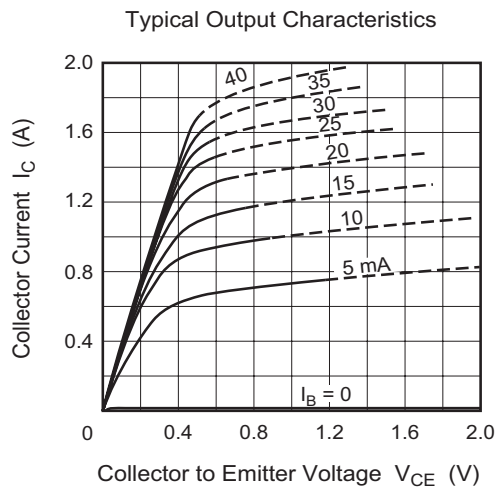
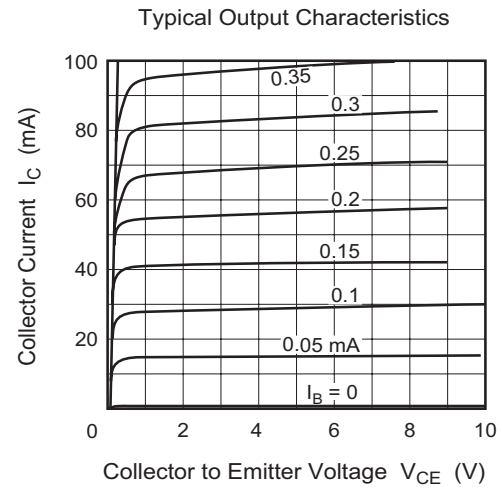
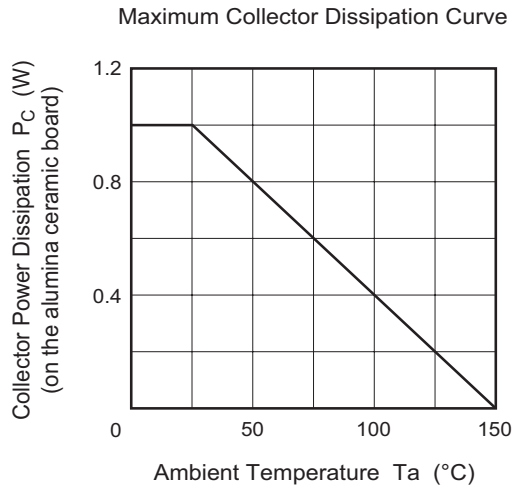
(Ta = 25°C)

| Item                                    | Symbol        | Min | Typ | Max | Unit    | Test conditions                     |
|-----------------------------------------|---------------|-----|-----|-----|---------|-------------------------------------|
| Collector to base breakdown voltage     | $V_{(BR)CBO}$ | 100 | —   | —   | V       | $I_C = 10 \mu A, I_E = 0$           |
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$ | 50  | —   | —   | V       | $I_C = 1 mA, R_{BE} = \infty$       |
| Emitter to base breakdown voltage       | $V_{(BR)EBO}$ | 6   | —   | —   | V       | $I_E = 10 \mu A, I_C = 0$           |
| Collector cutoff current                | $I_{CBO}$     | —   | —   | 0.1 | $\mu A$ | $V_{CB} = 80 V, I_E = 0$            |
| Emitter cutoff current                  | $I_{EBO}$     | —   | —   | 0.1 | $\mu A$ | $V_{EB} = 4 V, I_C = 0$             |
| DC current transfer ratio               | $h_{FE}^{*1}$ | 160 | —   | 500 |         | $V_{CE} = 2 V, I_C = 0.1 A$         |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | —   | —   | 0.3 | V       | $I_C = 1 A, I_B = 0.1 A$ , Pulse    |
| Base to emitter saturation voltage      | $V_{BE(sat)}$ | —   | —   | 1.2 | V       | $I_C = 1 A, I_B = 0.1 A$ , Pulse    |
| Gain bandwidth product                  | $f_T$         | —   | 100 | —   | MHz     | $V_{CE} = 2 V, I_C = 10 mA$ , Pulse |
| Collector output capacitance            | $C_{ob}$      | —   | 20  | —   | pF      | $V_{CB} = 10 V, I_E = 0, f = 1 MHz$ |

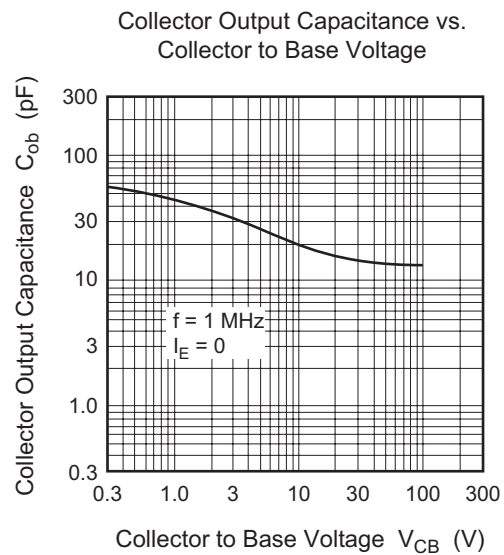
Note: 1. The 2SD1368 is grouped by  $h_{FE}$  as follows.

| Mark     | CB         | CC         |
|----------|------------|------------|
| $h_{FE}$ | 160 to 320 | 250 to 500 |

### Typical Characteristics

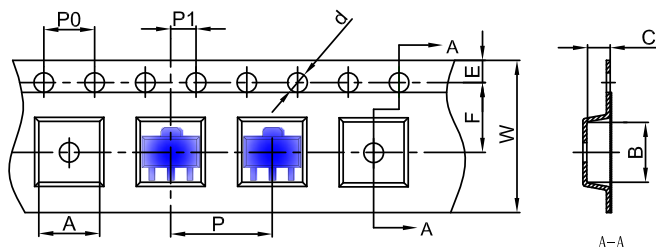


### Typical Characteristics



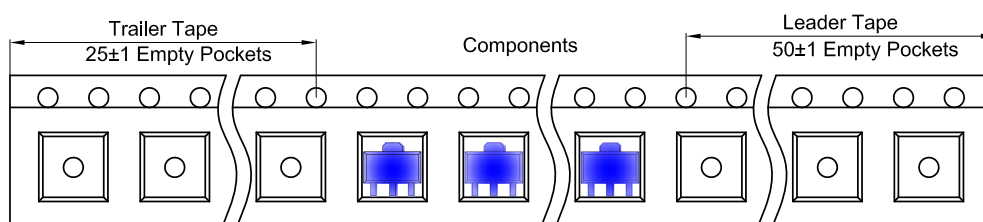
### SOT-89-3L Tape and Reel

#### SOT-89-3L Embossed Carrier Tape

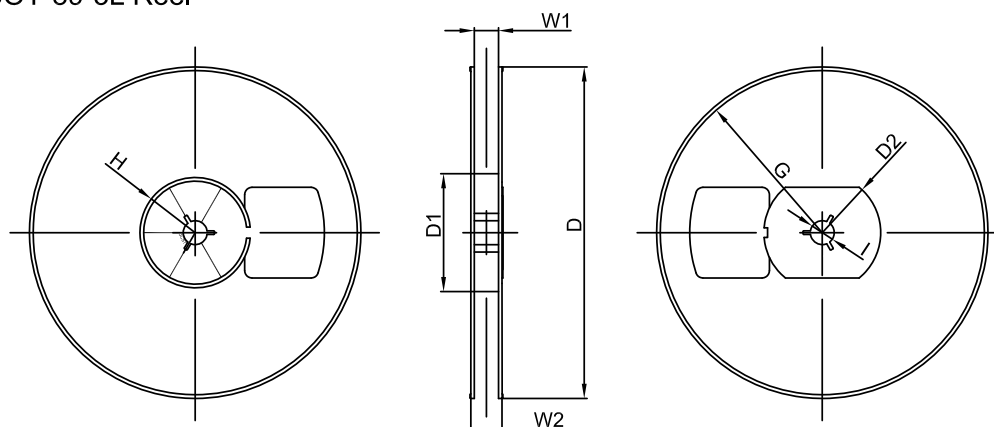


| Dimensions are in millimeter |      |      |      |       |      |      |      |      |      |       |
|------------------------------|------|------|------|-------|------|------|------|------|------|-------|
| Pkg type                     | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | W     |
| SOT-89-3L                    | 4.85 | 4.45 | 1.85 | Ø1.50 | 1.75 | 5.50 | 4.00 | 8.00 | 2.00 | 12.00 |

#### SOT-89-3L Tape Leader and Trailer

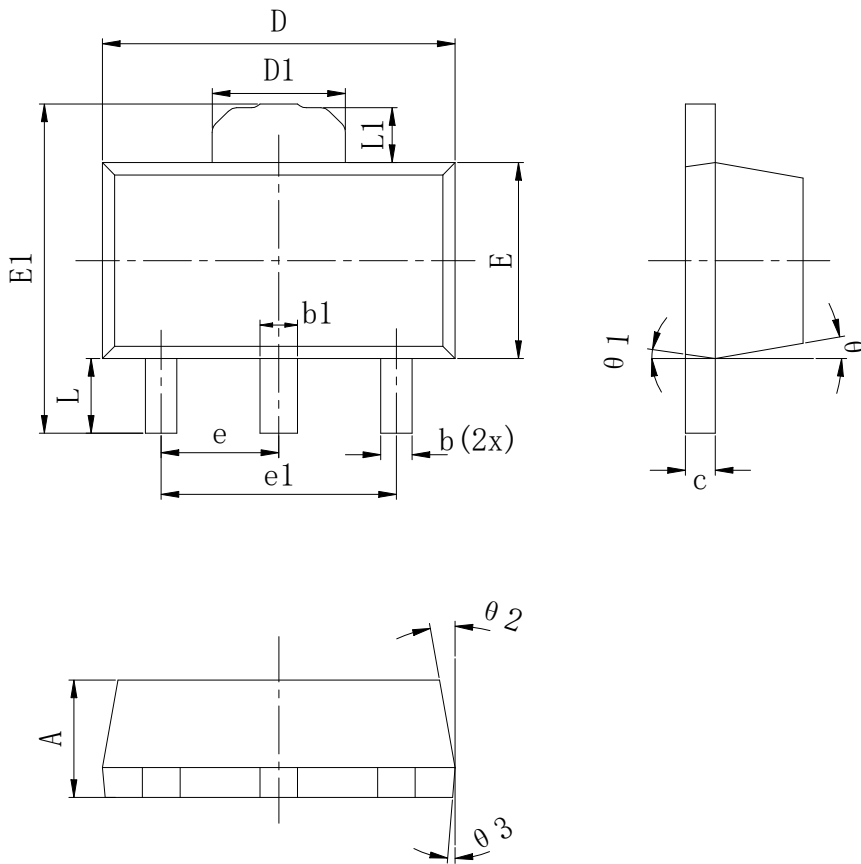


#### SOT-89-3L Reel



| Dimensions are in millimeter |         |       |        |        |        |        |       |       |
|------------------------------|---------|-------|--------|--------|--------|--------|-------|-------|
| Reel Option                  | D       | D1    | D2     | G      | H      | I      | W1    | W2    |
| 7" Dia                       | Ø180.00 | 60.00 | R32.00 | R86.50 | R30.00 | Ø13.00 | 13.20 | 16.50 |

| REEL     | Reel Size | Box        | Box Size(mm) | Carton     | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|------------|-----------------|----------|
| 1000 pcs | 7 inch    | 10,000 pcs | 203×203×195  | 40,000 pcs | 438×438×220     |          |



| SYMBOL  | MILLIMETER |       |       |
|---------|------------|-------|-------|
|         | MIN        | TYP.  | MAX   |
| A       | 1.400      | 1.500 | 1.600 |
| b       | 0.320      | 0.400 | 0.520 |
| b1      | 0.400      | 0.480 | 0.580 |
| c       | 0.350      | 0.381 | 0.440 |
| D       | 4.400      | 4.500 | 4.600 |
| D1      | 1.700REF   |       |       |
| E       | 2.400      | 2.500 | 2.600 |
| E1      | 4.050      | 4.200 | 4.350 |
| e       | 1.500TYP.  |       |       |
| e1      | 3.000TYP.  |       |       |
| L       | 0.800      | 0.950 | 1.200 |
| L1      | 0.700REF   |       |       |
| theta   | 10° REF    |       |       |
| theta 1 | 8° REF     |       |       |
| theta 2 | 10° REF    |       |       |
| theta 3 | 5° REF     |       |       |

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