

**2SB1580 / 2SB1316 / 2SB1567**

- 1) Darlington connection for high DC current gain.
- 2) Built-in resistor between base and emitter.
- 3) Built-in damper diode.
- 4) Complements the 2SD2195 / 2SD1980 / 2SD2398.

| Parameter                   | Symbol    | Limits   | Unit        |
|-----------------------------|-----------|----------|-------------|
| Collector-base voltage      | $V_{CBO}$ | -100     | V           |
| Collector-emitter voltage   | $V_{CEO}$ | -100     | V           |
| Emitter-base voltage        | $V_{EB0}$ | -8       | V           |
| Collector current           | $I_c$     | -2       | A(DC)       |
|                             |           | -3       | A(Pulse) *1 |
| Collector power dissipation | $P_c$     | 2        | W           |
|                             |           | 1        | W           |
|                             |           | 10       | W(T=25°C)   |
|                             |           | 2        | W           |
|                             |           | 20       | W(T=25°C)   |
| Junction temperature        | $T_j$     | 150      | °C          |
| Storage temperature         | $T_{slq}$ | -55~+150 | °C          |

•2 When mounted on a 40 x 40 x 0.7 mm ceramic board

| Type                         | 2SB1580  | 2SB1316  | 2SB1567  |
|------------------------------|----------|----------|----------|
| Package                      | MPT3     | CPT3     | TO-220FN |
| freq                         | 1k - 10k | 1k - 10k | 1k - 10k |
| Marking                      | BN*      | -        | -        |
| Code                         | T100     | TL       | -        |
| Basic ordering unit (pieces) | 1000     | 2500     | 500      |

$R_1 = 3.5\text{ k}\Omega$     B : Base  
 $R_2 = 300\Omega$     C : Collector  
                     E : Emitter

[illegible]

ROHM : CPT3  
EIAJ : SC-63

Figure 1: Dimensions of TO-220FN package. The diagram shows two views of the package with dimensions in millimeters. The top view shows a square base with a central pin and four side pins. Dimensions include 10.0, 3.2, 15.0, 13.0, 8.0, 4.0, 1.2, 1.3, 0.8, 2.54, 1.2, 5.4, 1.2, 2.54, and 0.75. The side view shows a rectangular package with dimensions 4.5, 2.8, 2.6, and 0.75. A legend indicates: (1) Base/Gate, (2) Collector/Drain, (3) Emitter/Source.

| Parameter                            | Symbol        | Min. | Typ. | Max.  | Unit    | Conditions                          |
|--------------------------------------|---------------|------|------|-------|---------|-------------------------------------|
| Collector-base breakdown voltage     | $BV_{CBO}$    | -100 | -    | -     | V       | $I_C = -50\mu A$                    |
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | -100 | -    | -     | V       | $I_C = -5mA$                        |
| Collector cutoff current             | $I_{CBO}$     | -    | -    | -10   | $\mu A$ | $V_{CB} = -100V$                    |
| Emitter cutoff current               | $I_{EBO}$     | -    | -    | -3    | mA      | $V_{EB} = -7V$                      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | -    | -    | -1.5  | V       | $I_C/I_E = -1A/-1mA$                |
| DC current transfer ratio            | $h_{FE}$      | 1000 | -    | 10000 | -       | $V_{CE} = -2V, I_C = -1A$           |
| Output capacitance                   | $C_{ob}$      | -    | 35   | -     | pF      | $V_{CB} = -10V, I_E = 0A, f = 1MHz$ |

\* Measured using pulse current.