

Ultra high-speed switching diode array

BAV70 / BAW56 / BAV99 / BAS16

*This product is available only outside of Japan.

●Application

Ultra high speed switching

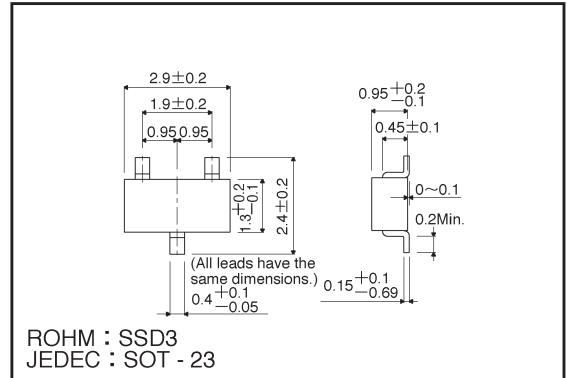
●Features

- 1) Compact size
- 2) High speed ($t_{rr} = 1.5\text{ns Typ.}$)
- 3) Four types of circuit configurations are available.

●Construction

Silicon epitaxial planar

●External dimensions (Units: mm)



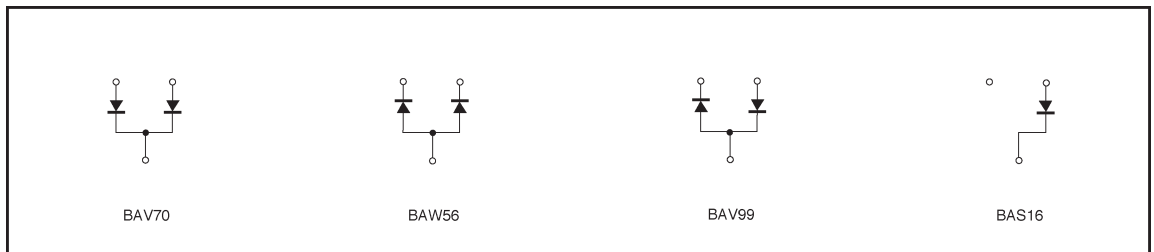
●Marking (TYPE No.)

| Product name | Type No. | Product name | Type No. |
|--------------|----------|--------------|----------|
| BAV70 | RA4 | BAV99 | RA7 |
| BAW56 | RA1 | BAS16 | RA6 |

(Ex.) BAV70



●Equivalent circuit



● Absolute maximum ratings (Ta = 25°C)

| Type | Peak reverse voltage V _{RM} (V) | DC reverse voltage V _R (V) | Peak forward current I _{FM} (mA) | Mean rectifying current I _o (mA) | Surge current (1 μs) I _{surge} (A) | Power dissipation (TOTAL) Pd (mW) | Junction temperature T _J (°C) | Storage temperature T _{stg} (°C) | TYPE |
|-------|---|--|--|--|---|---|---|--|------|
| BAV70 | 80 | 80 | 300 | 100 | 4 | 200 | 150 | -55~+150 | N |
| BAW56 | 80 | 80 | 300 | 100 | 4 | 150 | 150 | -55~+150 | P |
| BAV99 | 80 | 80 | 300 | 100 | 4 | 200 | 150 | -55~+150 | N |
| BAS16 | 80 | 80 | 300 | 100 | 4 | 200 | 150 | -55~+150 | N |

● Electrical characteristics (Ta = 25°C)

| Type | Forward voltage | | Reverse current | | Capacitance between terminals | | | Reverse recovery time | | |
|-------|----------------------------|---------------------|-----------------------------|--------------------|-------------------------------|--------------------|---------|------------------------------|--------------------|---------------------|
| | V _F (V) Max. | Cond. | I _R (μA) Max. | Cond. | C _T (pF) Max. | Cond. | | t _{rr} (ns) Max. | Cond. | |
| | | I _F (mA) | | V _R (V) | | V _R (V) | f (MHz) | | V _R (V) | I _F (mA) |
| BAV70 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| BAW56 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| BAV99 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| BAS16 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |

● Electrical characteristic curves (Ta = 25°C unless specified otherwise)

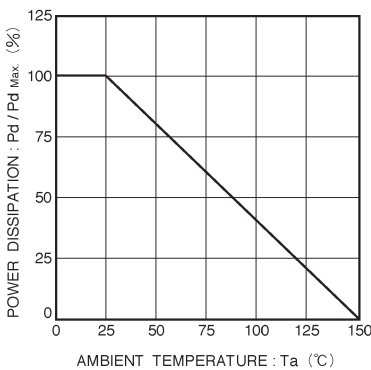


Fig. 1 Power attenuation curve

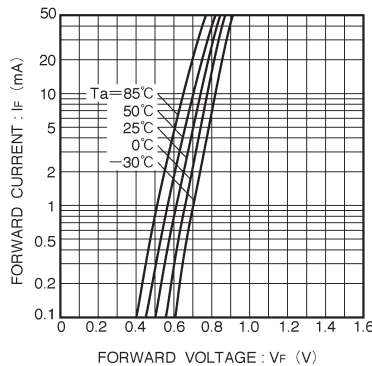


Fig. 2 Forward current vs. forward voltage (P TYPE)

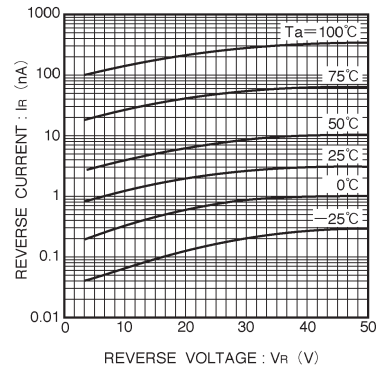


Fig. 3 Reverse current vs. reverse voltage (P TYPE)

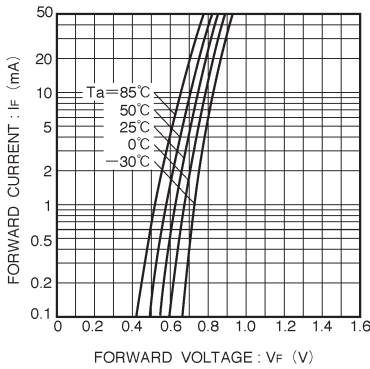


Fig. 4 Forward current vs. forward voltage (N TYPE)

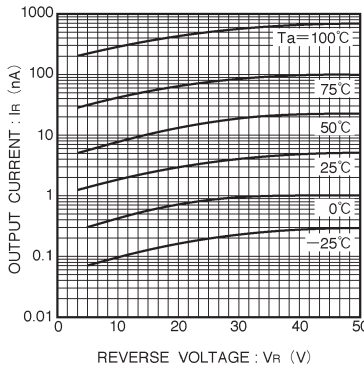


Fig. 5 Reverse current vs. reverse voltage (N TYPE)

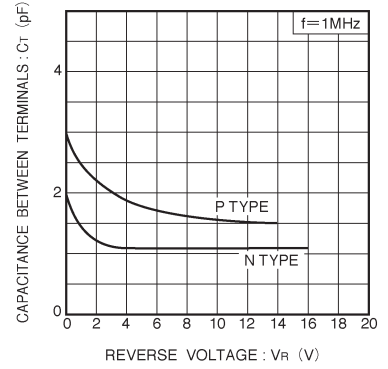


Fig. 6 Capacitance between terminals vs. reverse voltage

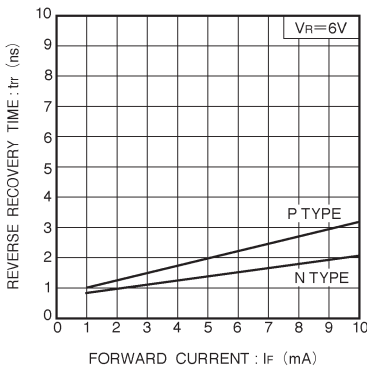


Fig. 7 Reverse recovery time vs. forward current

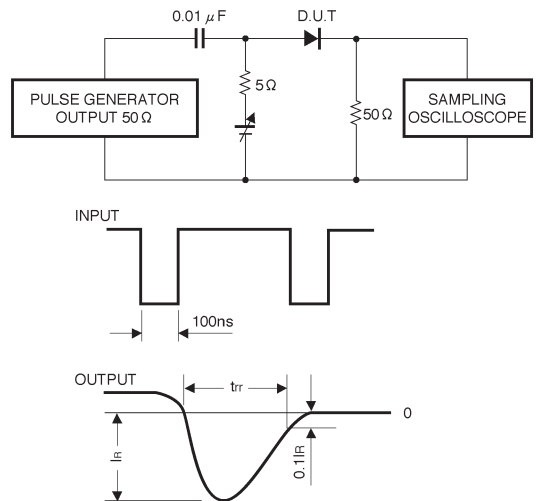


Fig. 8 Reverse recovery time (t_{rr}) measurement circuit