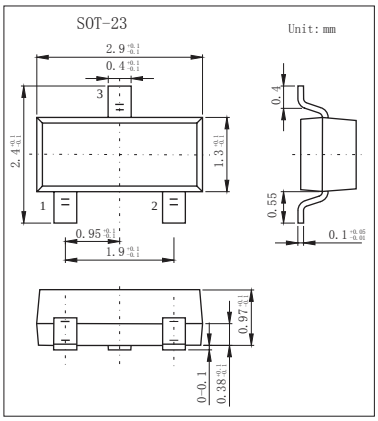
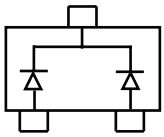
# Switching Diodes

## BAV70 (KAV70)




### ■ Features

- Small plastic SMD package.
- High switching sped: max.4 ns.
- Repetitive peak forward current: max.450 mA.



### ■ Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Repetitive peak reverse voltage | $V_{RRM}$ | 85 | V |
| Continuous reverse voltage | $V_R$ | 75 | V |
| Continuous forward current(single diode loaded *)<br>(double diode loaded *) | $I_F$ | 215<br>125 | mA |
| Repetitive peak forward current | $I_{FRM}$ | 450 | mA |
| Non-repetitive peak forward current Tj=25 ℃ t=1 μ s | $I_{FSM}$ | 4 | A |
| t=1ms | | 1 | |
| t=1s | | 0.5 | |
| power dissipation * | $P_D$ | 250 | mW |
| Thermal resistance from junction to tie-point | $R_{th\ j\text{-}tp}$ | 360 | K/W |
| Thermal resistance from junction to ambient * | $R_{th\ j\text{-}a}$ | 500 | K/W |
| Junction Temperature | $T_j$ | 150 | ℃ |
| Storage Temperature Range | $T_{stg}$ | -65 to +150 | ℃ |

* Device mounted on an FR4 printed-circuit board.

### ■ Electrical Characteristics Ta = 25℃

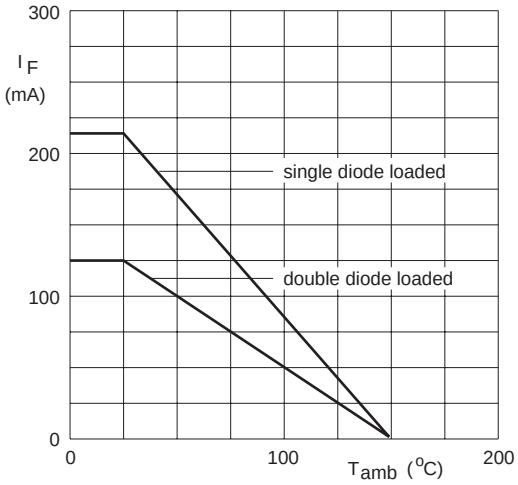
| Parameter | Symbol | Test conditions | Max | Unit |
|---|---|---|---|---|
| Forward voltage | $V_F$ | $I_F$ =1 mA | 715 | mV |
| | | $I_F$ =10 mA | 855 | mV |
| | | $I_F$ =50 mA | 1 | V |
| | | $I_F$ =150 mA | 1.25 | V |
| Reverse current | $I_R$ | $V_R$ =75 V | 1 | μ A |
| | | $V_R$ =25 V; Tj= 150 ℃ | 30 | |
| | | $V_R$ =75 V; Tj= 150 ℃ | 50 | |
| Diode capacitance | $C_d$ | $V_R$ =0 V, f= 1 MHz | 1.5 | pF |
| Reverse recovery time | $t_{rr}$ | when switched from $I_F$= 10 mA to $I_R$=10mA;$R_L$=100Ω; measured at $I_R$= 1mA | 4 | nS |
| Forward recovery voltage | $V_{fr}$ | $I_F$ = 10 mA, tr= 20 ns | 1.75 | V |

### ■ Marking

| Marking | A4* |
|---|---|

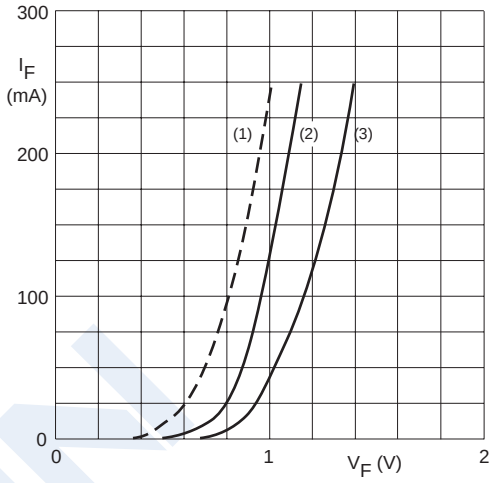
# BAV70 (KAV70)

## ■ Typical Characteristics



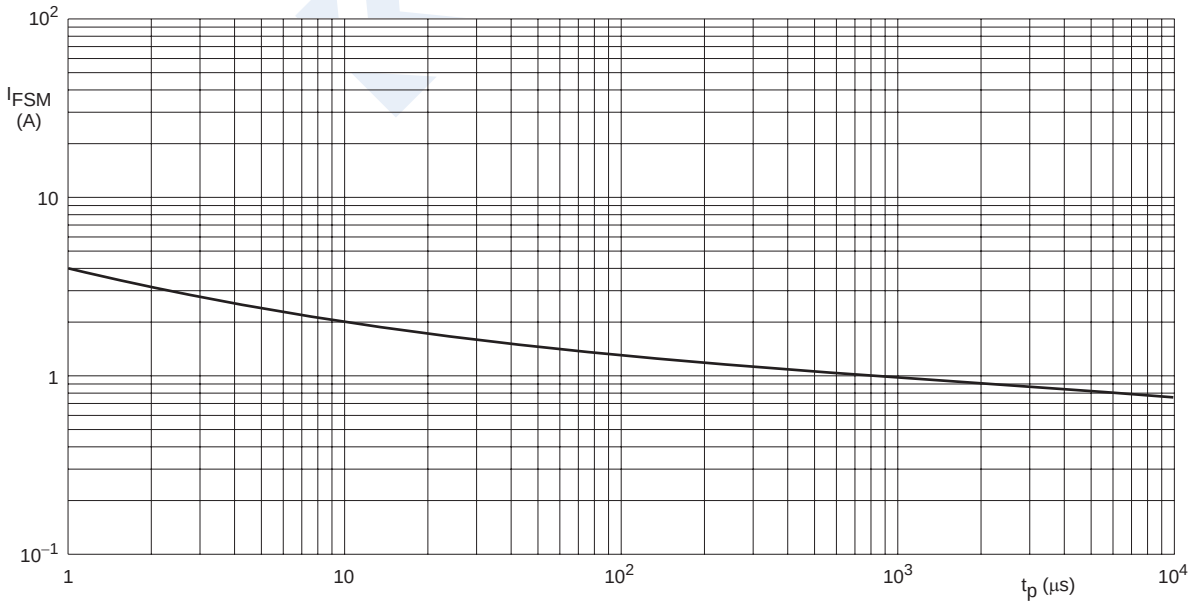

Device mounted on an FR4 printed-circuit board.

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.




(1) $T_j$ = 150 °C; typical values.
(2) $T_j$ = 25 °C; typical values.
(3) $T_j$ = 25 °C; maximum values.

Fig.3 Forward current as a function of forward voltage.




Based on square wave currents.
$T_j$ = 25 °C prior to surge.

Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

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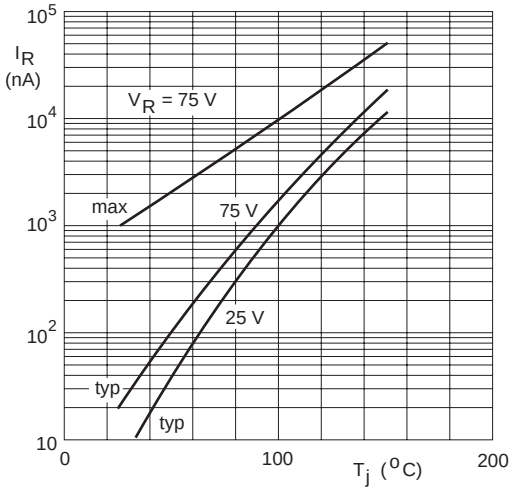
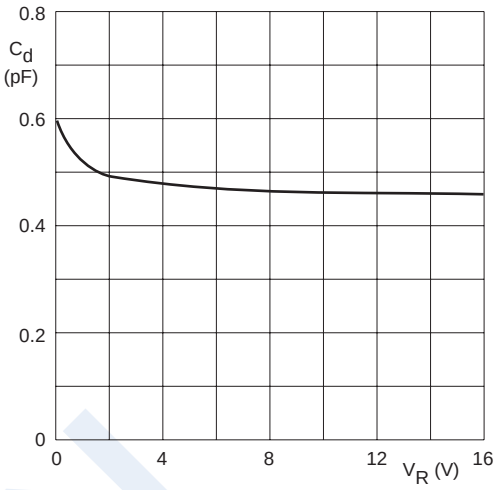



Fig.5 Reverse current as a function of junction temperature.




f = 1 MHz; $T_j$ = 25 °C.

Fig.6 Diode capacitance as a function of reverse voltage; typical values.