

# BAV99S

**VOLTAGE** 85 Volts **CURRENT** 200 mA

## HIGH SPEED SWITCHING DIODE ARRAY

This device comes with two pairs of high speed switching diodes connected in series, where both pairs are electrically isolated, offering a very low capacitance, minimizing the insertion losses in data transmission lines.

### FEATURES

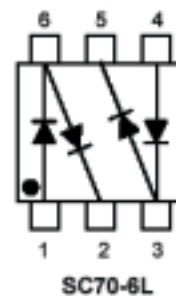
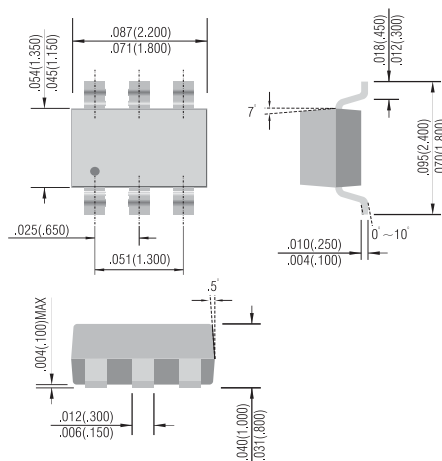
- Maximum capacitance of 1.5pF
- Maximum leakage current of 2.5  $\mu$ A
- Reverse breakdown voltage of 70V
- Rail to rail ESD protection
- Overshoot and undershoot switching control
- Mobile phones and accessories
- Video game consoles connector ports
- Pb free product are available : 99% Sn above can meet Rohs environment substance directive request

### MECHANICAL DATA

Case: SOT-363 molded plastic

Terminals: Lead solderable per MIL-STD-202G, Method 208.

**SOT-363** Unit: inch ( mm )



### MAXIMUM RATINGS (PER DIODE) $T_J = 25^{\circ}\text{C}$ , UNLESS OTHERWISE NOTED

| Rating                                                                                   | Symbol    | Value        | Units              |
|------------------------------------------------------------------------------------------|-----------|--------------|--------------------|
| Maximum repetitive peak reverse voltage                                                  | $V_{RRM}$ | 85           | V                  |
| Continuous reverse voltage                                                               | $V_R$     | 75           | V                  |
| Continuous forward voltage                                                               | $I_F$     | 200          | mA                 |
| Non-repetitive peak forward current, $t=1 \mu$ sec, $T_J=25^{\circ}\text{C}$ square wave | $I_{FSM}$ | 4.5          | A                  |
| Total power dissipation, $T_J=85^{\circ}\text{C}$                                        | $P_{TOT}$ | 250          | mW                 |
| Operating Junction Temperature range                                                     | $T_J$     | -50 to + 150 | $^{\circ}\text{C}$ |
| Storage temperature range                                                                | $T_{STG}$ | -50 to + 150 | $^{\circ}\text{C}$ |
| Soldering Temperature, $t_{max} = 10$ secs                                               | $T_L$     | 260          | $^{\circ}\text{C}$ |



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## ELECTRICAL CHARACTERISTICS (PER DIODE) $T_J = 25^{\circ}\text{C}$ , UNLESS OTHERWISE NOTED

| Parameter                                              | Symbol   | Conditions                                                                                           | Min | Typ | Max  | Units         |
|--------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------|-----|-----|------|---------------|
| Breakdown voltage                                      | $V_{BR}$ | $I_{BR} = 100 \mu\text{A}$                                                                           | 75  |     |      |               |
| Forward voltage                                        | $V_F$    | $I_F = 1\text{mA}$                                                                                   |     |     | 715  | mV            |
|                                                        |          | $I_F = 10\text{mA}$                                                                                  |     |     | 855  | mV            |
|                                                        |          | $I_F = 50\text{mA}$                                                                                  |     |     | 1    | V             |
|                                                        |          | $I_F = 150\text{mA}$                                                                                 |     |     | 1.25 | V             |
| Reverse leakage current                                | $I_R$    | $V_R = 75\text{V}$                                                                                   |     |     | 2.5  | $\mu\text{A}$ |
| Reverse leakage current at $T_J = 150^{\circ}\text{C}$ | $I_R$    | $V_R = 25\text{V}$                                                                                   |     |     | 30   | $\mu\text{A}$ |
|                                                        |          | $V_R = 70\text{V}$                                                                                   |     |     | 50   | $\mu\text{A}$ |
| Junction capacitance                                   | $C_D$    | 0Vdc Bias, $f = 1\text{MHz}$                                                                         |     |     | 1.5  | pF            |
| Reverse recovery time                                  | $t_{rr}$ | $I_F = 10\text{mA}, I_R = 10\text{mA}$<br>$R_L = 100 \text{ Ohms}$<br>measured at $I_R = 1\text{mA}$ |     |     | 4    | ns            |
| Forward recovery voltage                               | $V_{FR}$ | $I_F = 10\text{mA}, t_r = 20\text{nsec}$                                                             |     |     | 1.75 | V             |

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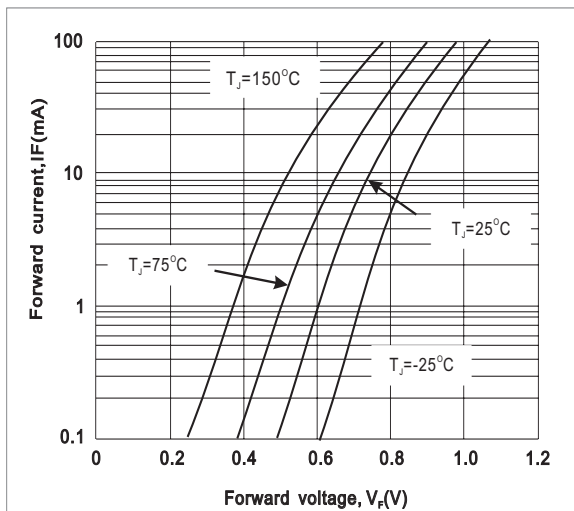


Fig.1-Typical forward voltage

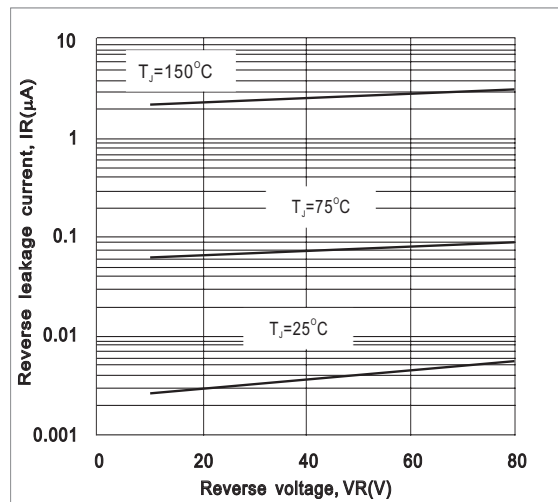


Fig.2-Typical reverse leakage

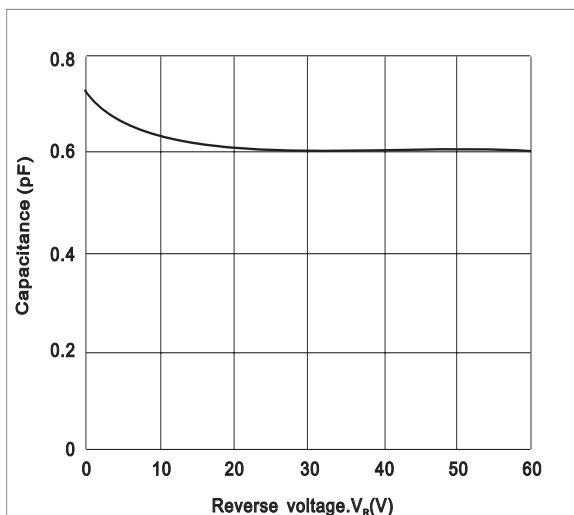


Fig.3-Typical capacitance