

Schottky barrier (double) diodes

BAS40W series

FEATURES

- Low forward voltage
- Guard ring protected
- Very small SMD package
- Low diode capacitance.

APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes.

DESCRIPTION

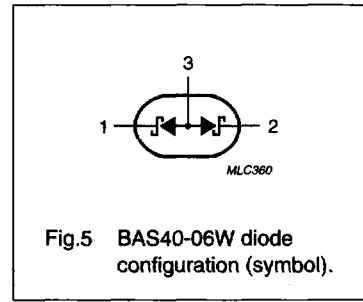
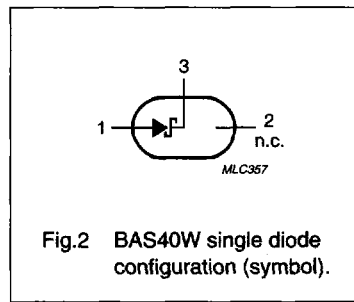
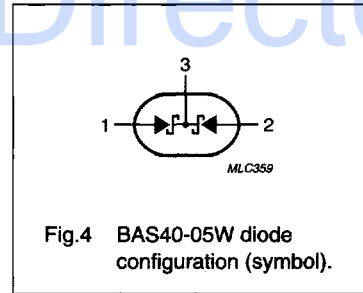
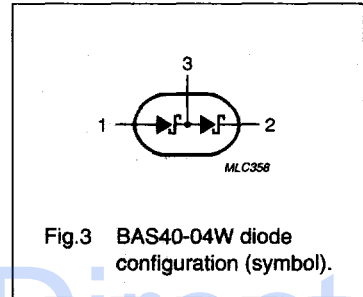
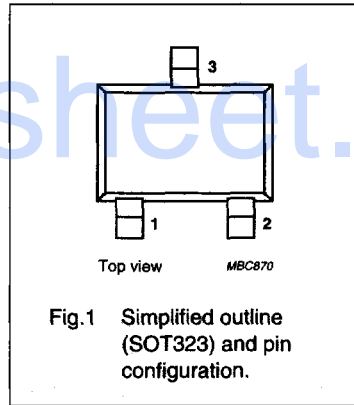
Planar Schottky barrier diodes encapsulated in a SOT323 very small plastic SMD package. Single diodes and double diodes with different pinning are available.

MARKING

| TYPE NUMBER | MARKING CODE |
|-------------|--------------|
| BAS40W | 63 |
| BAS40-04W | 64 |
| BAS40-05W | 65 |
| BAS40-06W | 66 |

PINNING

| PIN | BAS40 | | | |
|-----|----------------|---------------------------------|---------------------------------|---------------------------------|
| | W | -04W | -05W | -06W |
| 1 | a ₁ | a ₁ | a ₁ | k ₁ |
| 2 | n.c. | k ₂ | a ₂ | k ₂ |
| 3 | k ₁ | k ₁ , a ₂ | k ₁ , k ₂ | a ₁ , a ₂ |



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LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|------------------|-------------------------------------|-----------------------------------|------|------|------|
| Per diode | | | | | |
| V_R | continuous reverse voltage | | – | 40 | V |
| I_F | continuous forward current | | – | 120 | mA |
| I_{FRM} | repetitive peak forward current | $t_p \leq 1$ s; $\delta \leq 0.5$ | – | 120 | mA |
| I_{FSM} | non-repetitive peak forward current | $t_p < 10$ ms | – | 200 | mA |
| T_{stg} | storage temperature | | –65 | +150 | °C |
| T_j | junction temperature | | – | 150 | °C |
| T_{amb} | operating ambient temperature | | –65 | +150 | °C |

ELECTRICAL CHARACTERISTICS $T_{amb} = 25$ °C unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MAX. | UNIT |
|------------------|----------------------------|---|-----------------|---------------|
| Per diode | | | | |
| V_F | continuous forward voltage | see Fig.6 $I_F = 1$ mA $I_F = 10$ mA $I_F = 15$ mA | 380 500 1 | mV mV V |
| I_R | continuous reverse current | $V_R = 30$ V; note 1; see Fig.7 | 1 | μ A |
| | | $V_R = 40$ V; note 1; see Fig.7 | 10 | μ A |
| τ | charge carrier life time | $I_F = 5$ mA; Krakauer method | 100 | ps |
| C_d | diode capacitance | $V_R = 0$ V; $f = 1$ MHz; see Fig.9 | 5 | pF |

Note

1. Pulsed test: $t_p = 300$ μ s; $\delta = 0.02$.

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---------------|---|------------|-------|------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | note 1 | 625 | K/W |

Note

1. Refer to SOT323 standard mounting conditions.

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GRAPHICAL DATA

