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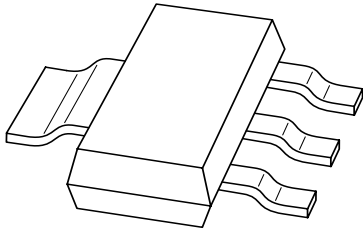
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via salesaddresses@nexperia.com). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

DATA SHEET



BAT160 series Schottky barrier double diodes

Product data sheet
Supersedes data of 1999 Mar 26

1999 Sep 20

Schottky barrier double diodes

BAT160 series

FEATURES

- Low switching losses
- Capability of absorbing very high surge current
- Fast recovery time
- Guard ring protected
- Plastic SMD package.

APPLICATIONS

- Low power switched-mode power supplies
- Rectification
- Polarity protection.

DESCRIPTION

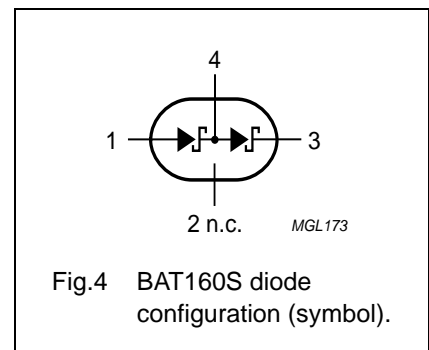
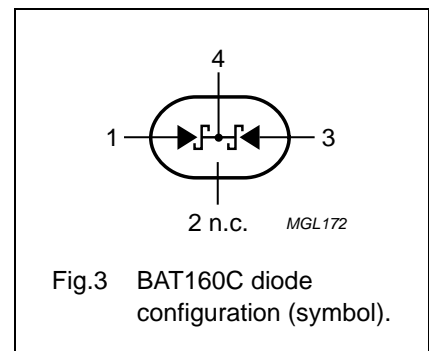
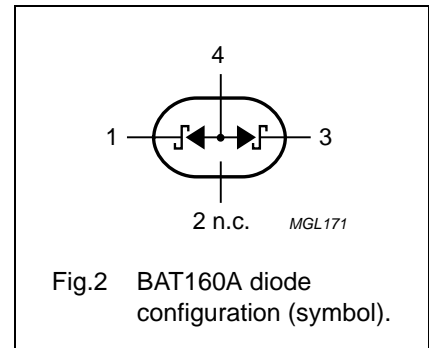
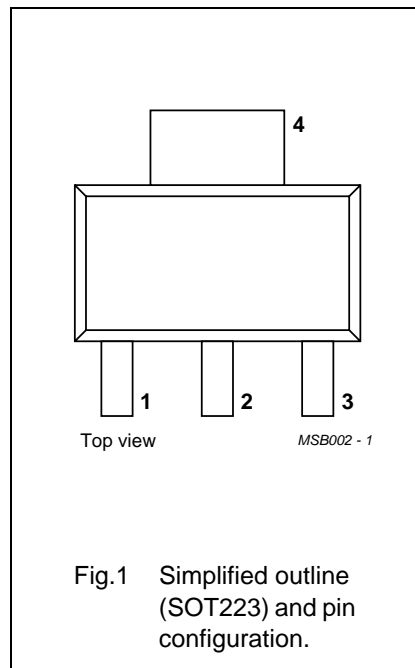
Planar Schottky barrier double diodes encapsulated in a SOT223 plastic SMD package.

MARKING

| TYPE NUMBER | MARKING CODE |
|-------------|--------------|
| BAT160A | AT160A |
| BAT160C | AT160C |
| BAT160S | AT160S |

PINNING

| PIN | BAT160 | | |
|-----|---------------------------------|---------------------------------|---------------------------------|
| | A | C | S |
| 1 | k ₁ | a ₁ | a ₁ |
| 2 | n.c. | n.c. | n.c. |
| 3 | k ₂ | a ₂ | k ₂ |
| 4 | a ₁ , a ₂ | k ₁ , k ₂ | k ₁ , a ₂ |



Schottky barrier double diodes

BAT160 series

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 | | – | 60 | V |
| I_F | continuous forward current | | – | 1 | A |
| I_{FSM} | non-repetitive peak forward current | $t_p = 8.3$ ms; half sinewave; JEDEC method | – | 10 | A |
| I_{RSM} | non-repetitive peak reverse current | $t_p = 100$ μ s | – | 0.5 | A |
| T_{stg} | storage temperature | | –65 | +150 | $^{\circ}$ C |
| T_j | junction temperature | | – | 150 | $^{\circ}$ C |

ELECTRICAL CHARACTERISTICS

$T_{amb} = 25$ $^{\circ}$ C unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MAX. | UNIT |
|------------------|-------------------|---|-------------------|----------------|
| Per diode | | | | |
| V_F | forward voltage | see Fig.5 $I_F = 100$ mA $I_F = 1$ A $I_F = 2$ A | 400 650 850 | mV mV mV |
| I_R | reverse current | $V_R = 60$ V; note 1; see Fig.6 | 350 | μ A |
| | | $V_R = 60$ V; $T_j = 100$ $^{\circ}$ C; note 1; see Fig.6 | 8 | mA |
| C_d | diode capacitance | $f = 1$ MHz; $V_R = 4$ V; see Fig 7 | 60 | pF |

Note

1. Pulse 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 | 100 | K/W |

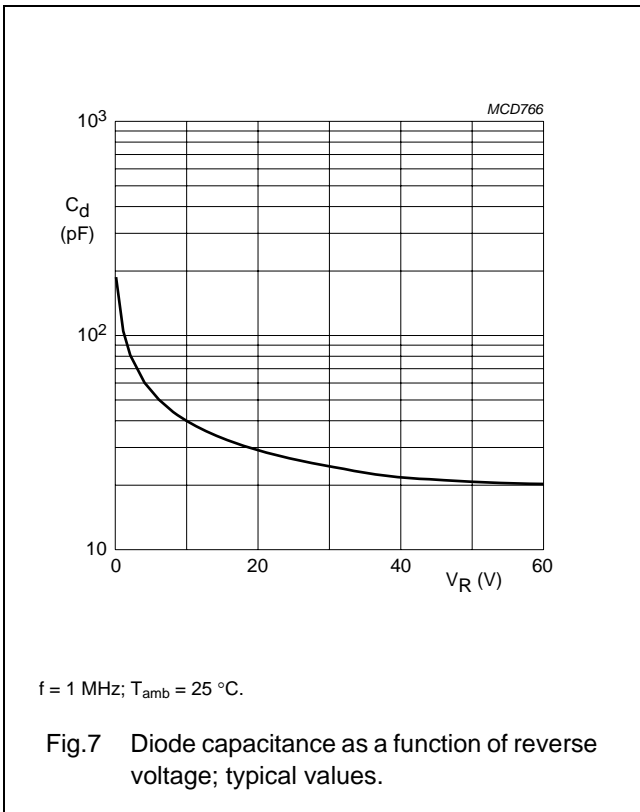
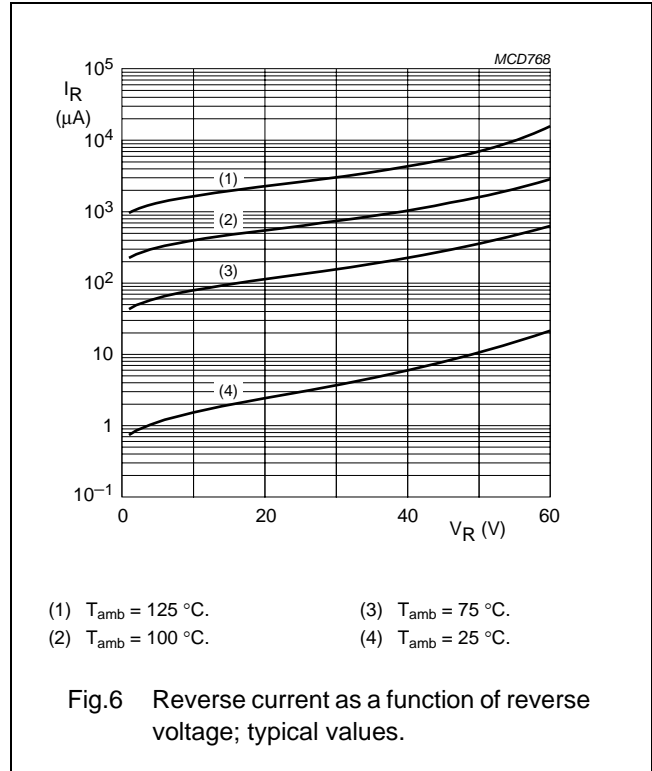
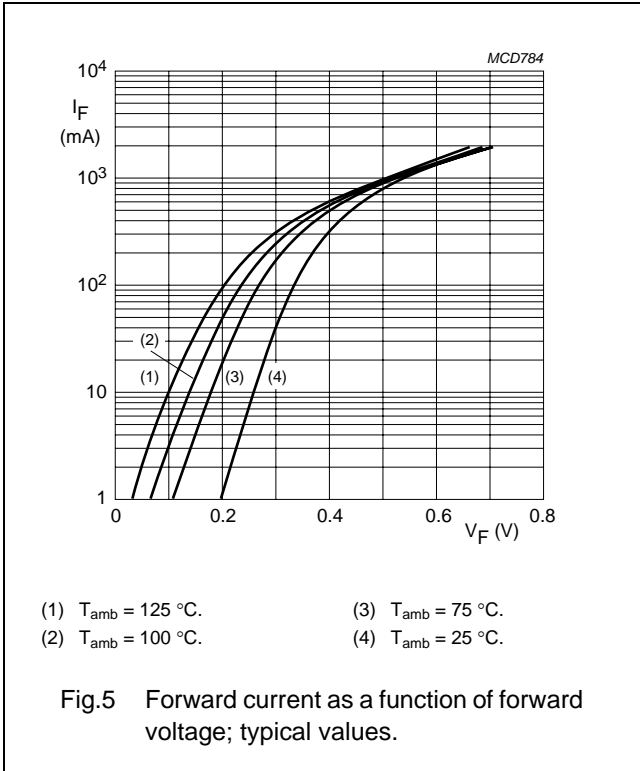
Note

1. Refer to SOT223 standard mounting conditions.

Schottky barrier double diodes

BAT160 series

GRAPHICAL DATA



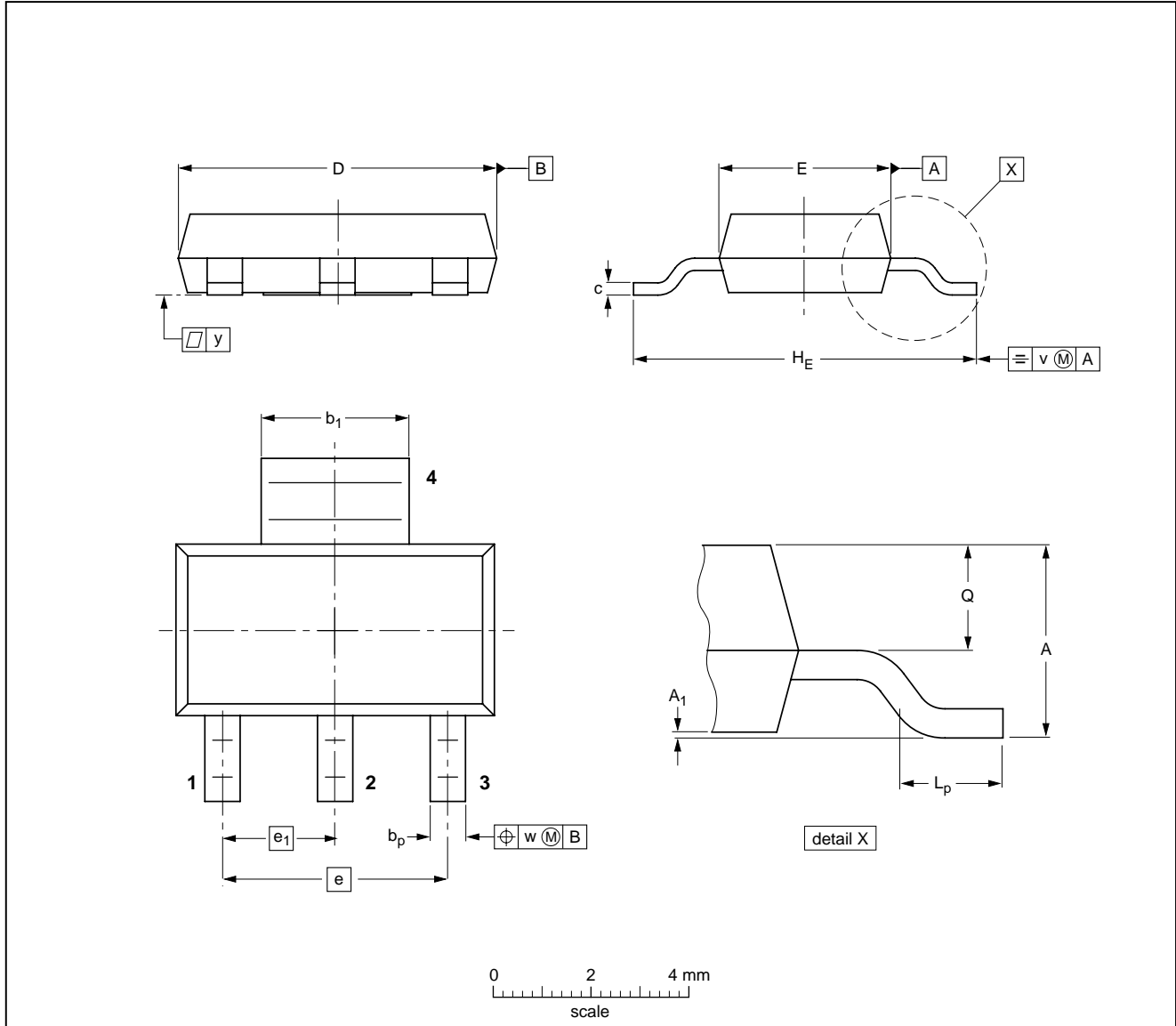
Schottky barrier double diodes

BAT160 series

PACKAGE OUTLINE

Plastic surface mounted package; collector pad for good heat transfer; 4 leads

SOT223



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ | b _p | b ₁ | c | D | E | e | e ₁ | H _E | L _p | Q | v | w | y |
|------|------------|----------------|----------------|----------------|--------------|------------|------------|-----|----------------|----------------|----------------|--------------|-----|-----|-----|
| mm | 1.8 1.5 | 0.10 0.01 | 0.80 0.60 | 3.1 2.9 | 0.32 0.22 | 6.7 6.3 | 3.7 3.3 | 4.6 | 2.3 | 7.3 6.7 | 1.1 0.7 | 0.95 0.85 | 0.2 | 0.1 | 0.1 |

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|-----------------|------------|-------|-------|--|---------------------|----------------------|
| | IEC | JEDEC | EIAJ | | | |
| SOT223 | | | SC-73 | | | 97-02-28 99-09-13 |

Schottky barrier double diodes

BAT160 series

DATA SHEET STATUS

| DOCUMENT STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | DEFINITION |
|--------------------------------|-------------------------------|---|
| Objective data sheet | Development | This document contains data from the objective specification for product development. |
| Preliminary data sheet | Qualification | This document contains data from the preliminary specification. |
| Product data sheet | Production | This document contains the product specification. |

Notes

1. Please consult the most recently issued document before initiating or completing a design.
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NXP Semiconductors

Customer notification

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Contact information

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