
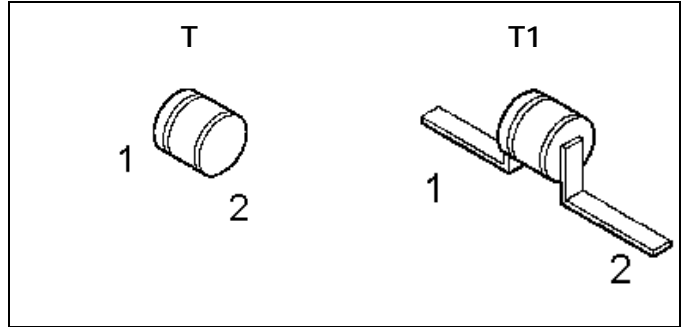
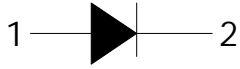
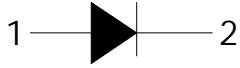


HiRel Silicon PIN Diode

- **HiRel Discrete and Microwave Semiconductor**
- PIN Diode for high speed switching of RF signals
- Very low capacitance
- Hermetically sealed microwave package
-  **esa Space Qualified**
ESA/SCC Detail Spec. No.: 5513/017
Type Variant No.s 01 to 02



ESD: Electrostatic discharge sensitive device, observe handling precautions!

| Type | Marking | Ordering Code | Pin Configuration | Package |
|---------------|---------|---------------|--|---------|
| BXY42-T (ql) | - | see below |  | T |
| BXY42-T1 (ql) | | |  | T1 |

| | | | |
|---------------------|--------------------------|----------------|------------|
| (ql) Quality Level: | P: Professional Quality, | Ordering Code: | Q62702X143 |
| | H: High Rel Quality, | Ordering Code: | on request |
| | S: Space Quality, | Ordering Code: | on request |
| | ES: ESA Space Quality, | Ordering Code: | Q62702X168 |

(see order instructions for ordering example)

Maximum Ratings

| Parameter | Symbol | Values | Unit |
|-------------------------------------|---------------|-------------|------|
| Reverse Voltage | V_R | 50 | V |
| Peak Forward Current ¹⁾ | I_{FM} | 5 | A |
| Power Dissipation | P_{tot} | | mW |
| BXY42-T ²⁾ | | 600 | |
| BXY42-T1 ³⁾ | | 350 | |
| Operating Temperature Range | T_{op} | -55 to +175 | °C |
| Storage Temperature Range | T_{stg} | -65 to +175 | °C |
| Soldering Temperature ⁴⁾ | T_{sol} | +250 | °C |
| Junction Temperature | T_j | 175 | °C |
| Thermal Resistance Junction-Case | $R_{th(j-c)}$ | | K/W |
| BXY42-T | | 200 | |
| BXY42-T1 | | 350 | |

Notes.:

- 1.) At $t_p = 1,0\mu s$, Duty Cycle=0,001%
- 2.) At $T_{CASE} = 55\text{ °C}$. For $T_{CASE} > 55\text{ °C}$ derating is required.
- 3.) At $T_{CASE} = 52,5\text{ °C}$. For $T_{CASE} > 52,5\text{ °C}$ derating is required.
- 4.) During 5 sec. maximum. The same terminal shall not be resoldered until 5 minutes have elapsed.

Electrical Characteristics

at $T_A=25\text{ °C}$; unless otherwise specified

| Parameter | Symbol | Values | | | Unit |
|-----------|--------|--------|------|------|------|
| | | min. | typ. | max. | |

DC Characteristics

| | | | | | |
|-----------------------------------|----------|---|------|-----|---------|
| Reverse Current 1 $V_{R1}=50V$ | I_{R1} | - | - | 10 | μA |
| Reverse Current 2 $V_{R2}=40V$ | I_{R2} | - | - | 5 | nA |
| Forward Voltage $I_F=100mA$ | V_F | - | 0,97 | 1,1 | V |

Electrical Characteristics (continued)

| Parameter | Symbol | Values | | | Unit |
|---|----------|--------|------|------|----------|
| | | min. | typ. | max. | |
| AC Characteristics | | | | | |
| Total Capacitance $V_R=20V$; $f=1MHz$ | C_T | - | 0,22 | 0,24 | pF |
| Forward Resistance 1 $f=100MHz$, $I_{F1}=1mA$ | R_{F1} | - | 2 | 3,5 | Ω |
| Forward Resistance 2 $f=100MHz$, $I_{F2}=10mA$ | R_{F2} | - | 1 | 2,5 | Ω |
| Minority Carrier Lifetime $I_F=10mA$, $I_R=6mA$, $I_R=3mA$ | τ_L | 35 | 50 | - | ns |

Order Instructions:

Full type variant including package variant and quality level must be specified by the orderer. For *HiRel* Discrete and Microwave Semiconductors the ordering code specifies device family and quality level only.

Ordering Form:

Ordering Code: Q.....
BXY42- (x) (ql)
(x): Package Variant
(ql): Quality Level

Ordering Example:

Ordering Code: Q62702X168
BXY42-T1 ES
For BXY42 in T1 Package; ESA Space Quality Level

Further Informations:

See our WWW-Pages:

- Discrete and RF-Semiconductors (Small Signal Semiconductors)
www.infineon.com/products/discrete/hirel.htm

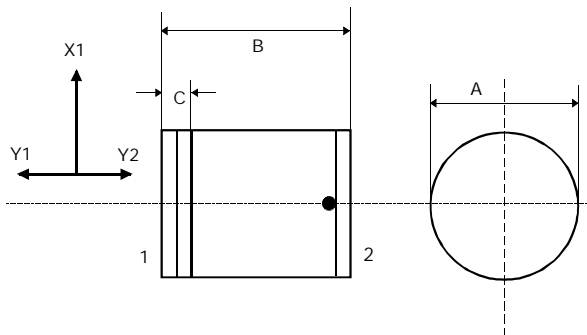
- *HiRel* Discrete and Microwave Semiconductors
www.infineon.com/products/discrete/hirel.htm

Please contact also our marketing division :

Tel.: ++89 234 24480
Fax.: ++89 234 28434

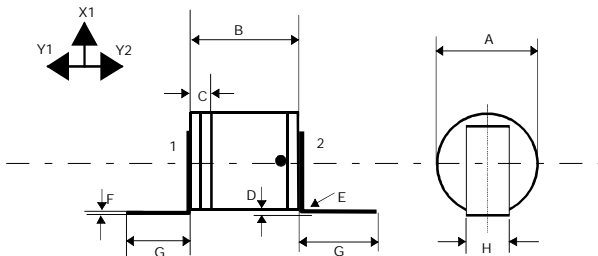
e-mail: martin.wimmers@infineon.com
Address: Infineon Technologies Semiconductors,
 High Frequency Products Marketing,
 P.O.Box 801709,
 D-81617 Munich

T Package



| Symbol | Millimetre | |
|--------|------------|------|
| | min | max |
| A | 1,30 | 1,45 |
| B | 1,15 | 1,35 |
| C | - | 0,40 |

T1 Package



| Symbol | Millimetre | |
|--------|------------|------|
| | min | max |
| A | 1,30 | 1,45 |
| B | 1,15 | 1,35 |
| C | - | 0,40 |
| D | 0,10 | 0,50 |
| E | - | 0,30 |
| F | 0,06 | 0,10 |
| G | 5,50 | - |
| H | 0,40 | 0,60 |

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