
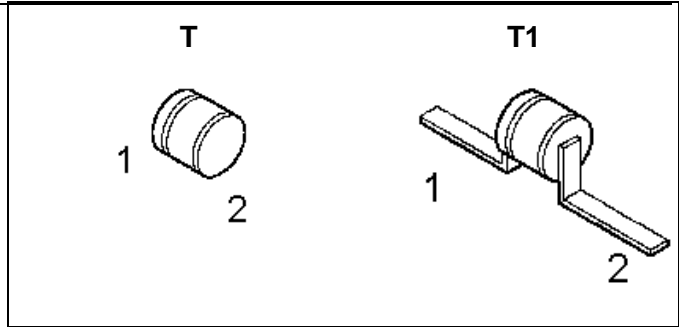
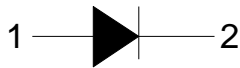
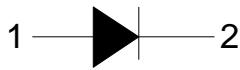


**HiRel Silicon PIN Diode**

- **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  
H: High Rel Quality  
S: Space Quality  
ES: ESA Space Quality

(see order instructions for ordering example)

**Maximum Ratings**

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

**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.	

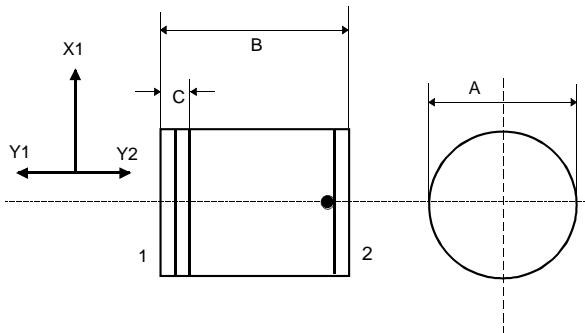
**DC Characteristics**

Reverse Current 1 $V_{R1}=50V$	$I_{R1}$	-	-	10	$\mu A$
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)**

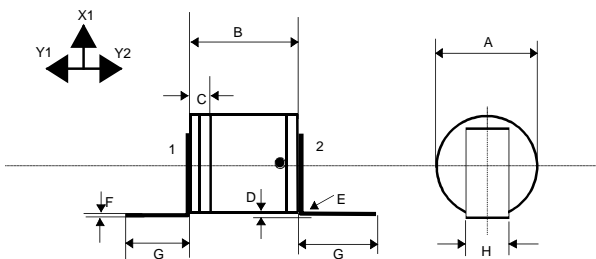
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>AC Characteristics</b>					
Total Capacitance $V_R=20V$ ; $f=1MHz$	$C_T$	-	0,22	0,24	pF
Forward Resistance 1 $f=100MHz$ , $I_{F1}=1mA$	$R_{F1}$	-	2	3,5	$\Omega$
Forward Resistance 2 $f=100MHz$ , $I_{F2}=10mA$	$R_{F2}$	-	1	2,5	$\Omega$
Minority Carrier Lifetime $I_F=10mA$ , $I_R=6mA$ , $I_{R2}=3mA$	$\tau_L$	35	50	-	ns

### 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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