
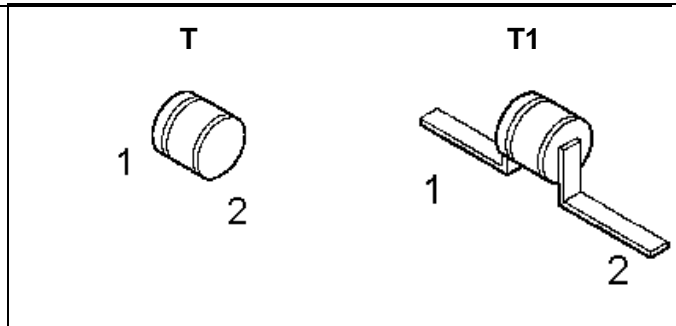
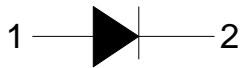
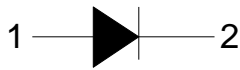


HiRel Silicon PIN Diode

- **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 ¹⁾	I_{FM}	5	A
Power Dissipation BXY42-T ²⁾ BXY42-T1 ³⁾	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 ⁴⁾	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.	

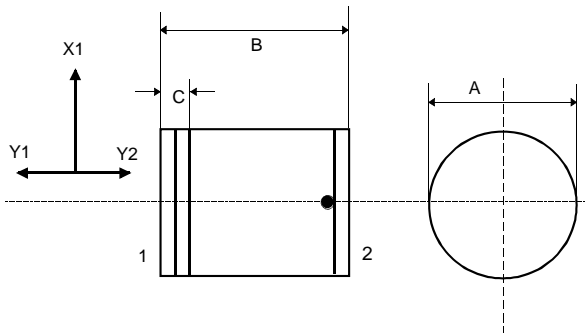
DC Characteristics

Reverse Current 1 $V_{R1}=50V$	I_{R1}	-	-	10	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)

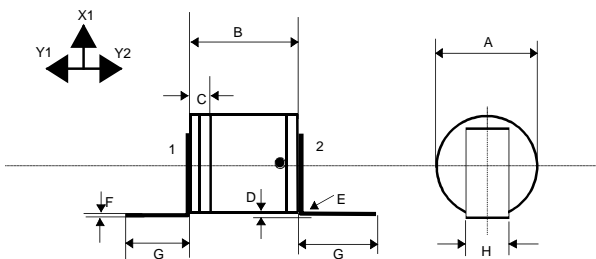
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Total Capacitance $V_R=20V$; $f=1MHz$	C_T	-	0,22	0,24	pF
Forward Resistance 1 $f=100MHz$, $I_{F1}=1mA$	R_{F1}	-	2	3,5	Ω
Forward Resistance 2 $f=100MHz$, $I_{F2}=10mA$	R_{F2}	-	1	2,5	Ω
Minority Carrier Lifetime $I_F=10mA$, $I_R=6mA$,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