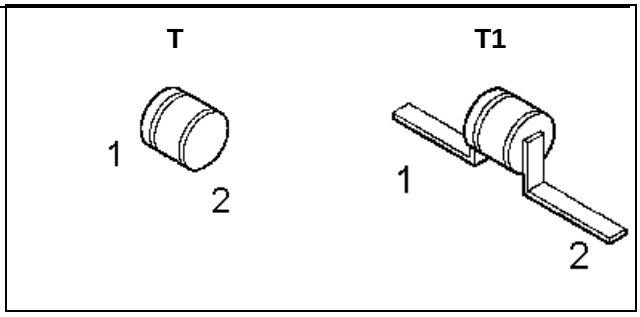
HiRel Silicon PIN Diode



- ***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: **E**lectro**s**tatic **d**ischarge sensitive device, observe handling precautions!

Type	Marking	Ordering Code	Pin Configuration	Package
BXY42-T (ql)	-	see below	1 — ▶ — 2	T
BXY42-T1 (ql)			1 — ▶ — 2	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	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 = 1,0µs, Duty Cycle=0,001%
2.) At T_{CASE} = 55 °C. For T_{CASE} > 55 °C derating is required.
3.) At T_{CASE} = 52,5 °C. For T_{CASE} > 52,5 °C derating is required.
4.) During 5 sec. maximum. The same terminal shall not be resoldered until 5 minutes have elapsed.

Electrical Characteristics

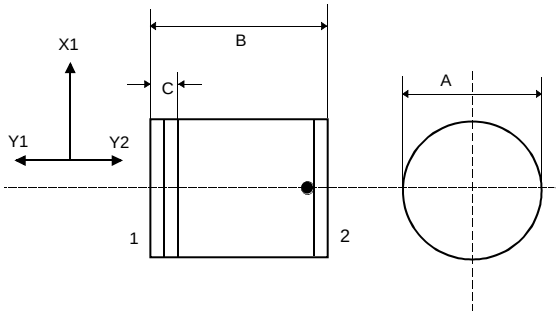
at T_A=25°C; unless otherwise specified

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)

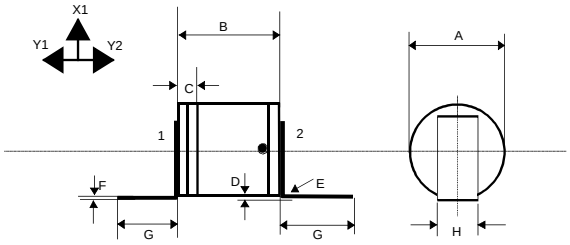
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Total Capacitance V_R=20V; f=1MHz	C_T	-	0,22	0,24	pF
Forward Resistance 1 f=100MHz, I_{F1}=1mA	R_{F1}	-	2	3,5	Ω
Forward Resistance 2 f=100MHz, I_{F2}=10mA	R_{F2}	-	1	2,5	Ω
Minority Carrier Lifetime I_F=10mA, I_R=6mA, I_R=3mA	τ_L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

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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