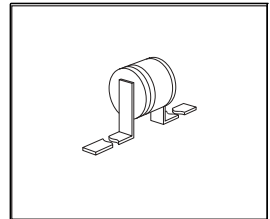
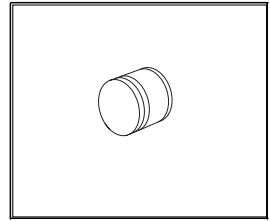
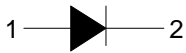


HiRel Silicon PIN Diode

- **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



BXY42-T
BXY42-T1



ESD (Electrostatic discharge) sensitive device, observe handling precaution!

Type	Package	Configuration	Marking
BXY42-T (ql)	MICRO-X1	single	-
BXY42-T1 (ql)	MICRO-X1	single	-

(ql) Testing level: P: Professional testing
 H: High Rel quality
 S: Space quality
 ES: ESA qualified

Maximum Ratings

Parameter	Symbol	Value	Unit
Reverse voltage	V_R	50	V
Peak forward current ¹⁾	I_{FM}	5	A
Total power dissipation ²⁾	P_{tot}		mW
BXY42-T		600	
BXY42-T1		350	
Junction temperature	T_j	175	°C
Operating temperature range	T_{op}	-55 ... 175	
Soldering temperature ³⁾	T_{sol}	250	°C
Storage temperature	T_{stg}	-65 ... 175	°C

Thermal Resistance

Parameter	Symbol	Value	Unit
Thermal resistance junction-case	$R_{th(j-c)}$		K/W
BXY42-T		≤ 200	
BXY42-T1		≤ 350	

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Reverse current 1 $V_{R1} = 50\text{ V}$	I_{R1}	-	-	10	μA
Reverse current 2 $V_{R2} = 50\text{ V}$	I_{R2}	-	-	5	nA
Forward voltage $I_F = 100\text{ mA}$	V_F	-	0.97	1.1	V

¹At $t_p = 1\mu\text{s}$, duty cycle = 0.001%

²BXY42-T: At $T_{CASE} = 55^\circ\text{C}$. For $T_{CASE} > 55^\circ\text{C}$ derating is required.

BXY42-T1: At $T_{CASE} = 52,5^\circ\text{C}$. For $T_{CASE} > 52,5^\circ\text{C}$ derating is required.

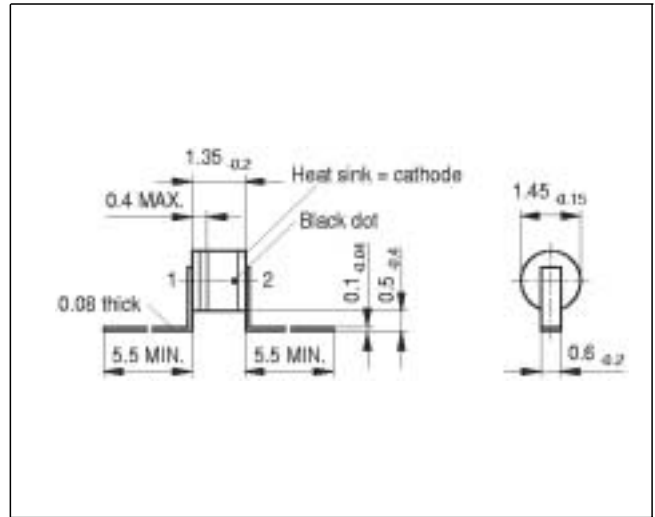
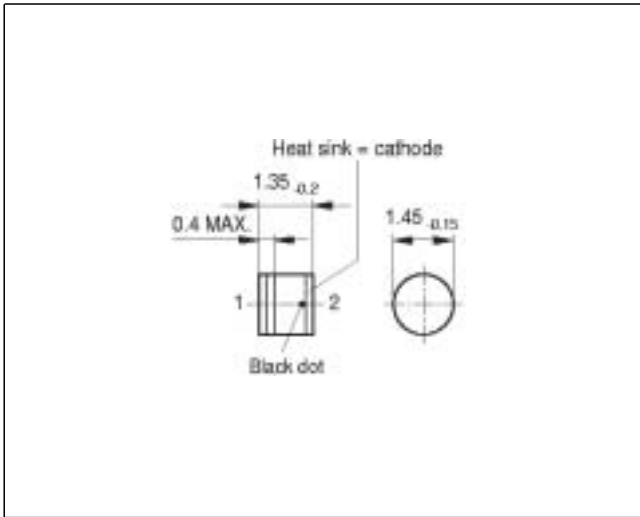
³During 15 sec. maximum. The same terminal shall not be resoldered until 5 minutes have elapsed.

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Diode capacitance $V_R = 20\text{ V}, f = 1\text{ MHz}$	C_T	-	0.22	0.24	pF
Forward resistance 1 $I_{F1} = 10\text{ mA}, f = 100\text{ MHz}$	R_{F1}	-	2	3.5	Ω
Forward resistance 2 $I_{F2} = 10\text{ mA}, f = 100\text{ MHz}$	R_{F2}	-	1	2.5	
Minority carrier lifetime $I_F = 10\text{ mA}, I_R = 6\text{ mA}, I_R = 3\text{ mA}$	τ_L	35	50	-	ns

T Package

T1 Package



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