

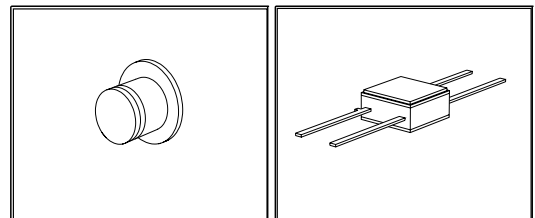
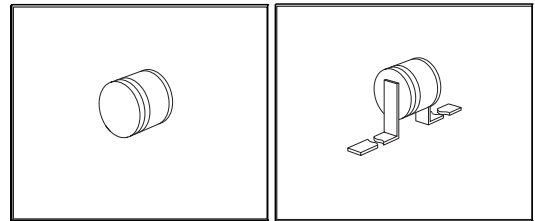
HiRel Silicon PIN Diode

• **HiRel Discrete and Microwave Semiconductor**

- Current controlled RF resistor for RF attenuators and switches
- High reverse voltage
- Hermetically sealed microwave package

• **esa Space Qualified**

ESA/SCC detail spec. NO.: 5513/030
type variant No. s 04 to 07

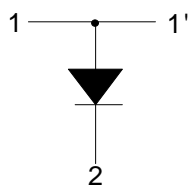


BXY44-T

BXY44-FP

BXY44-T1

BXY44-T2



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

Type	Package	Configuration	Marking
BXY44-FP	FP	single	-
BXY44-T (ql)	T	single	-
BXY44-T1 (ql)	T1	single	-
BXY44-T2 (ql)	T2	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	200	V
Forward current	I_F	400	mA
Total power dissipation ¹⁾ BXY44-T;-T2,-FP BXY44-T1	P_{tot}	500	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 150	
Soldering temperature ²⁾	T_{sol}	235	°C
Storage temperature	T_{stg}	175 ... -65	°C

Thermal Resistance

Parameter	Symbol	Value	Unit
Thermal resistance junction-case BXY44-FP BXY44-T BXY44-T1 BXY44-T2	$R_{th(j-c)}$	110 110 140 110	K/W

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse current $V_R = 200\text{ V}$	I_R	-	-	100	nA
Reverse current 1 $V_{R1} = 100\text{ V}$	I_{R1}	-	-	5	
Forward voltage $I_F = 100\text{ mA}$	V_F	-	1	1.05	V

¹For BXY44-FP; -T; -T2: at $T_{CASE} = 95^\circ\text{C}$. For $T_{CASE} > 95^\circ\text{C}$ derating is required.

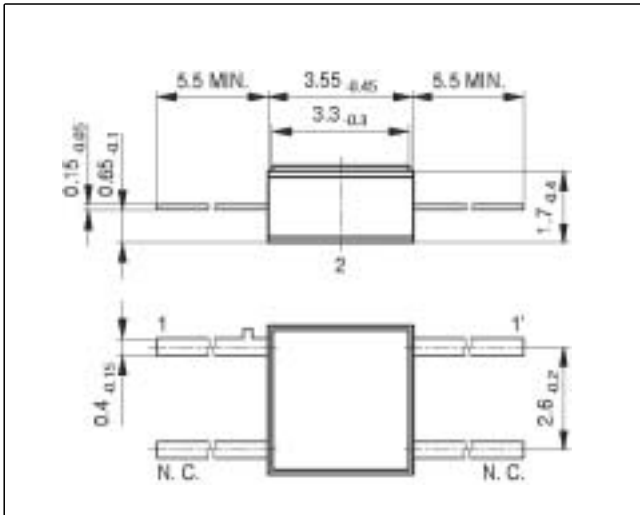
For BXY44-T1: at $T_{CASE} = 80^\circ\text{C}$. For $T_{CASE} > 80^\circ\text{C}$ derating is required.

²During 5 sec. maximum. The same terminal shall not be resoldered until 5 minutes have elapsed.

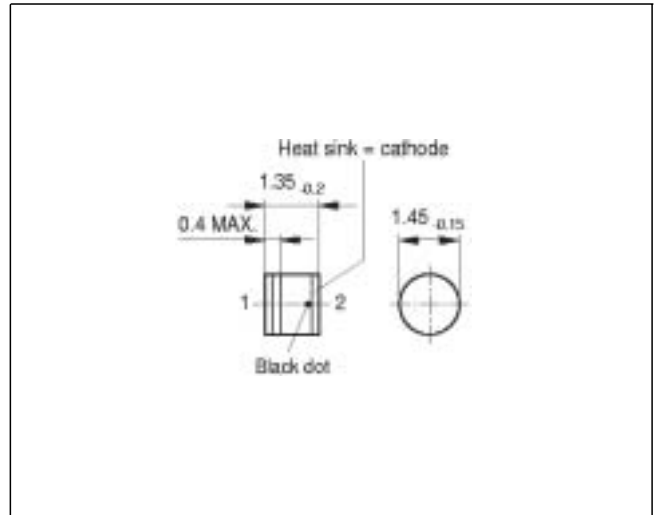
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Diode capacitance BXY44-T, -T1, -T2, $V_R = 50\text{ V}$, $f = 1\text{ MHz}$ BXY44-FP, $V_R = 50\text{ V}$, $f = 1\text{ MHz}$	C_T	- -	0.2 0.5	0.35 0.75	pF
Forward resistance 1 BXY44-T, -T1, -T2, $I_{F1} = 10\ \mu\text{A}$, $f = 100\text{ MHz}$ BXY44-FP, $I_{F1} = 10\ \mu\text{A}$, $f = 100\text{ MHz}$	R_{F1}	800 700	900 900	1300 1200	Ω
Forward resistance 2 BXY44-T, -T1, -T2, $I_{F2} = 1\text{ mA}$, $f = 100\text{ MHz}$ BXY44-FP, $I_{F2} = 1\text{ mA}$, $f = 100\text{ MHz}$	R_{F2}	12 11	16 20	28 27	
Forward resistance 3 BXY44-T, -T1, -T2, $I_{F3} = 10\text{ mA}$, $f = 100\text{ MHz}$ BXY44-FP, $I_{F3} = 10\text{ mA}$, $f = 100\text{ MHz}$	R_{F3}	2 2	3 3.8	5 5	
Minority carrier lifetime $I_F = 10\text{ mA}$, $I_R = 6\text{ mA}$, $I_R = 3\text{ mA}$	τ_L	300	800	-	ns

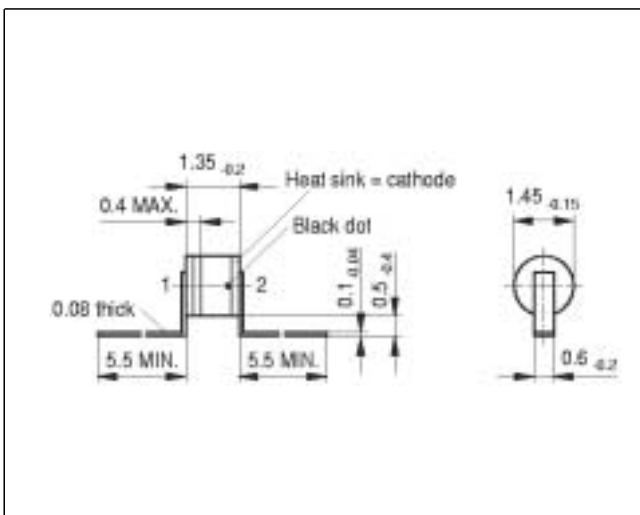
Package FP



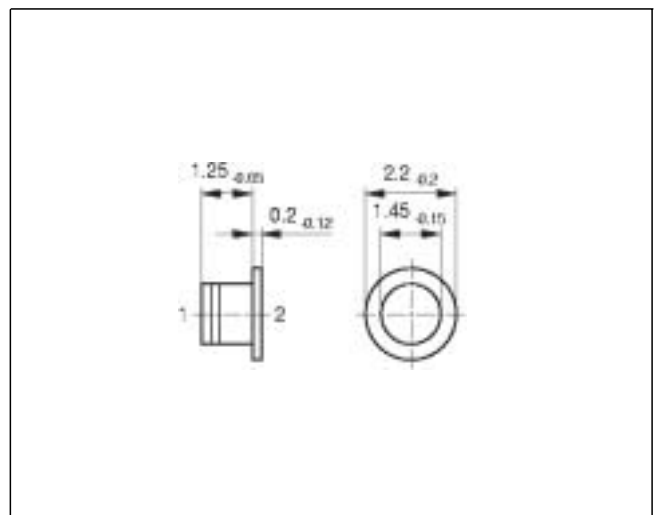
Package T



Package T1



Package T2



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