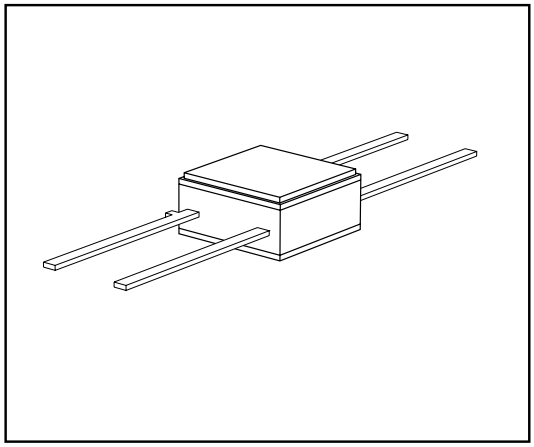
HiRel Silicon PIN Diode

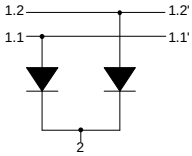


- **HiRel Discrete and Microwave Semiconductor**
- Current controlled RF resistors for RF attenuators and switches
- High reverse voltage
- Hermetically sealed microwave package
- **esa Space Qualified**

  ESA/SCC Detail Spec. No.: 5513/030

  Type Variant No. 04

BXY43P-FP



Type	Package	Configuration	Marking
BXY43P	FP	parallel pair	-

Maximum Ratings

Parameter	Symbol	Value	Unit
Reverse voltage	V_R	150	V
Forward current	I_F	400	mA
Total power dissipation[1)]	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}	-65 ... 175	°C

Thermal Resistance

Parameter	Symbol	Value	Unit
Thermal resistance junction-case	$R_{th(j-c)}$	100	K/W

[1]At T_S= 40°C. For T_S> 40°C derating is required.

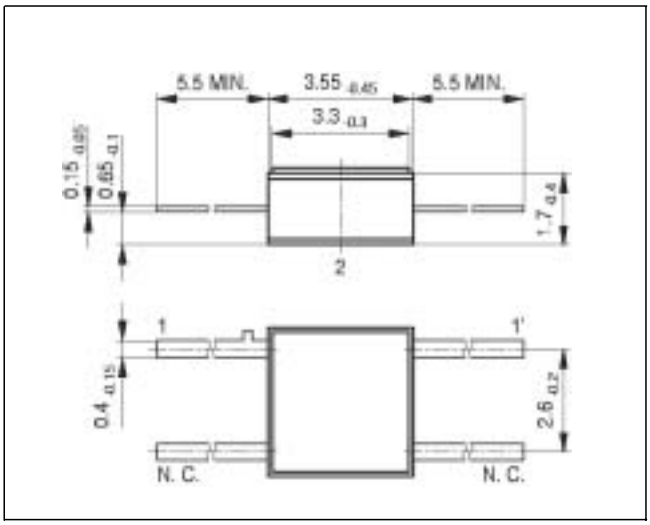
[2]During 15 sec. maximum. The same terminal shall not be resoldered until 5 minutes have elapsed

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current 1 V_{R1} = 150 V	I_{R1}	-	-	100	nA
Reverse current 2 V_{R2} = 100 V	I_{R2}	-	-	10	
Forward voltage I_F = 100 mA	V_F	-	0.97	1	V
AC Characteristics					
Diode capacitance V_R = 50 V, f = 1 MHz	C_T	0.4	0.6	0.85	pF
Forward resistance 1 I_{F1} = 20 µA, f = 100 MHz	R_{F1}	-	55	70	Ω
Forward resistance 2 I_{F2} = 1 mA, f = 100 MHz	R_{F2}	-	2.2	3	
Forward resistance 3	R_{F3}	-	0.9	1.5	
Minority carrier lifetime I_F = 10 mA, I_R = 6 mA, I_R = 3 mA	τ_L	250	650	-	ns
Matching Requirements					
Difference in Forward Resistance 2[1)]	R_{F2}	-	-	15	%
Difference in Forwars Resistance 3[1)]	R_{F3}	-	-	15	

[1] ΔR_F [%]= 100*(RF_Diode2- RF_Diode1)/RF_Diode1

Package FP


5.5 MIN.
3.55 -0.45
5.5 MIN.
3.3 0.3
0.15 -0.05
0.65 -0.1
1.7 -0.4
2
1
1'
0.4 -0.15
2.6 -0.2
N. C.
N. C.

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