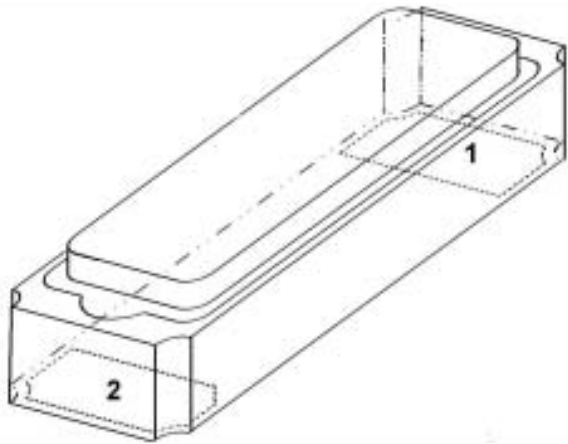


HiRel Silicon Switching Diode

Target datasheet

- *For high-speed switching applications*
- *Covers 1N6639 – 1N6643*



Type	Marking	Pin Configuration		Package
BAY6642	-	1 Anode	2 Cathode	HSL2-1808

Maximum Ratings

at $T_A=25^{\circ}\text{C}$; unless otherwise specified

Parameter	Symbol	Values	Unit
Working peak reverse voltage	V_{RWM}	75	V
Average output rectified current ¹⁾	I_O	300	mA
Forward surge current, $t \leq 10\text{ms}$	I_{FSM}	2.5	A
Junction temperature	T_j	175	$^{\circ}\text{C}$
Operating temperature range	T_{op}	-65...+175	$^{\circ}\text{C}$
Storage temperature range	T_{stg}	-65...+175	$^{\circ}\text{C}$

Thermal Resistance

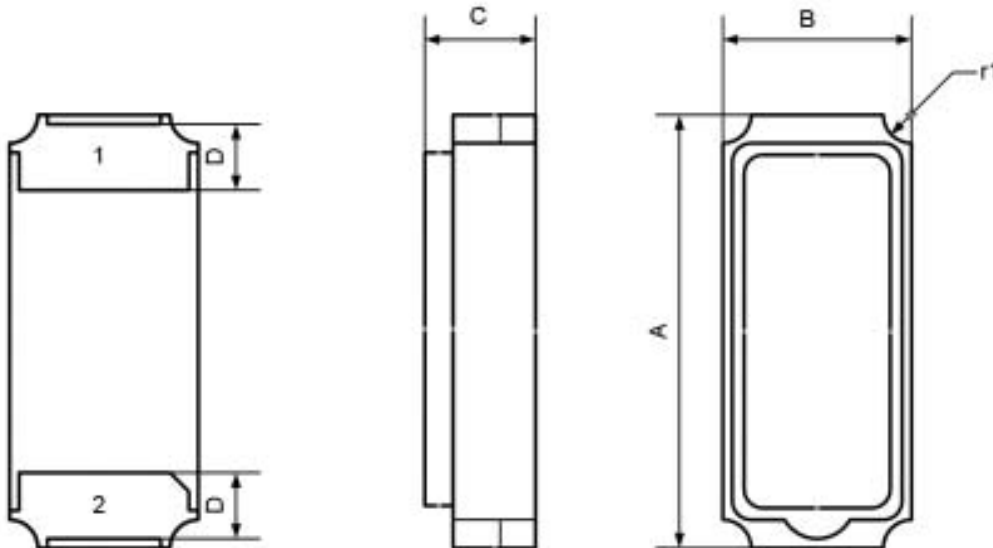
Junction to soldering point	R_{thJS}	Typ. 100	K/W
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1) For $T_A > 25^{\circ}\text{C}$ the derating of I_O has to be considered. Nomograms will be available on request.

Electrical Characteristics

 at $T_A=25^\circ\text{C}$; unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage, $I_R = -10 \mu\text{A}$	$V_{(BR)}$	100	-	-	V
Reverse current $V_R = 75 \text{ V}$ $V_R = 75 \text{ V}, T_A = 150^\circ\text{C}$	I_R	-	-	0.5 100	μA μA
D.C. Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 100 \text{ mA}$ $I_F = 500 \text{ mA}$	V_F	- - - -	- - - -	0.62 0.80 0.92 1.20	V V V V
AC Characteristics					
Total capacitance, $V_R = 0\text{V}, f = 1 \text{ MHz}$	C_T	-	-	2.5	pF
Reverse recovery time $I_F = 10 \text{ mA}, I_R = 10 \text{ mA}$ measured at $I_R = 2 \text{ mA}, R_L = 100 \Omega$	t_{rr}	-	4	-	ns
Forward recovery time, $I_F = 200 \text{ mA}$	t_{fr}	-	-	10	ns

HSL2 Package:


Symbol	A	B	C	D	r1
typical width [mm]	4.6	2.0	1.3	0.7	0.3

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