Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

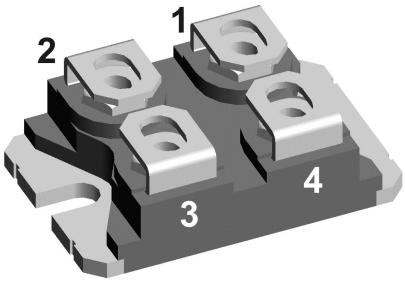
Schottky Diode

V_{RRM} = 200 V
I_{FAV} = 2x 120 A
V_F = 0.87 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Parallel legs

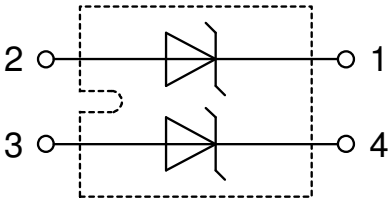
Part number

DSA240X200NA



Backside: isolated

E72873



Features / Advantages:

- Very low Vf
- Extremely low switching losses
- Low Irm values
- Improved thermal behaviour
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching

Applications:

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

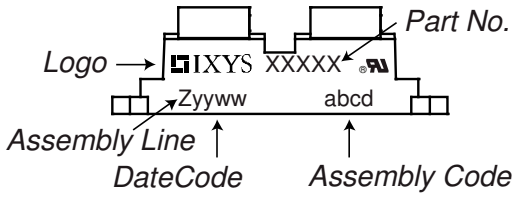
Package: SOT-227B (minibloc)

- Isolation Voltage: 3000 V~
- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Base plate: Copper internally DCB isolated
- Advanced power cycling

Schottky				Ratings			
Symbol	**Definition**	**Conditions**		**min.**	**typ.**	**max.**	**Unit**
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			200	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			200	V
I_R	*reverse current, drain current*	V_R = 200 V	T_{VJ} = 25°C			1.5	mA
		V_R = 200 V	T_{VJ} = 125°C			15	mA
V_F	*forward voltage drop*	I_F = 120 A	T_{VJ} = 25°C			1.00	V
		I_F = 240 A				1.26	V
		I_F = 120 A	T_{VJ} = 125°C			0.87	V
		I_F = 240 A				1.17	V
I_{FAV}	*average forward current*	T_C = 95°C	T_{VJ} = 150°C			120	A
		rectangular d = 0.5					
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 150°C			0.54	V
r_F	*slope resistance* }					2.5	mΩ
R_{thJC}	*thermal resistance junction to case*					0.4	K/W
R_{thCH}	*thermal resistance case to heatsink*				0.10		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			310	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine; V_R = 0 V	T_{VJ} = 45°C			1.60	kA
C_J	*junction capacitance*	V_R = 24 V f = 1 MHz	T_{VJ} = 25°C		902		pF

Package SOT-227B (minibloc)					Ratings			
Symbol	**Definition**	**Conditions**			**min.**	**typ.**	**max.**	**Unit**
I_{RMS}	*RMS current*	per terminal					150	A
T_{VJ}	*virtual junction temperature*				-40		150	°C
T_{op}	*operation temperature*				-40		125	°C
T_{stg}	*storage temperature*				-40		150	°C
Weight						30		g
M_D	*mounting torque*				1.1		1.5	Nm
M_T	*terminal torque*				1.1		1.5	Nm
$d_{Spp/App}$	*creepage distance on surface | striking distance through air*		*terminal to terminal*	10.5	3.2			mm
$d_{Spb/Apb}$			*terminal to backside*	8.6	6.8			mm
V_{ISOL}	*isolation voltage*	t = 1 second	50/60 Hz, RMS; I_{ISOL} ≤ 1 mA		3000			V
		t = 1 minute			2500			V

Product Marking



Part description

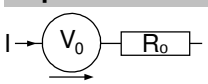
D = Diode
S = Schottky Diode
A = low VF
240 = Current Rating [A]
X = Parallel legs
200 = Reverse Voltage [V]
NA = SOT-227B (minibloc)

Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA240X200NA	DSA240X200NA	Tube	10	511108

Similar Part	Package	Voltage class
DSS2x101-02A	SOT-227B (minibloc)	200

Equivalent Circuits for Simulation

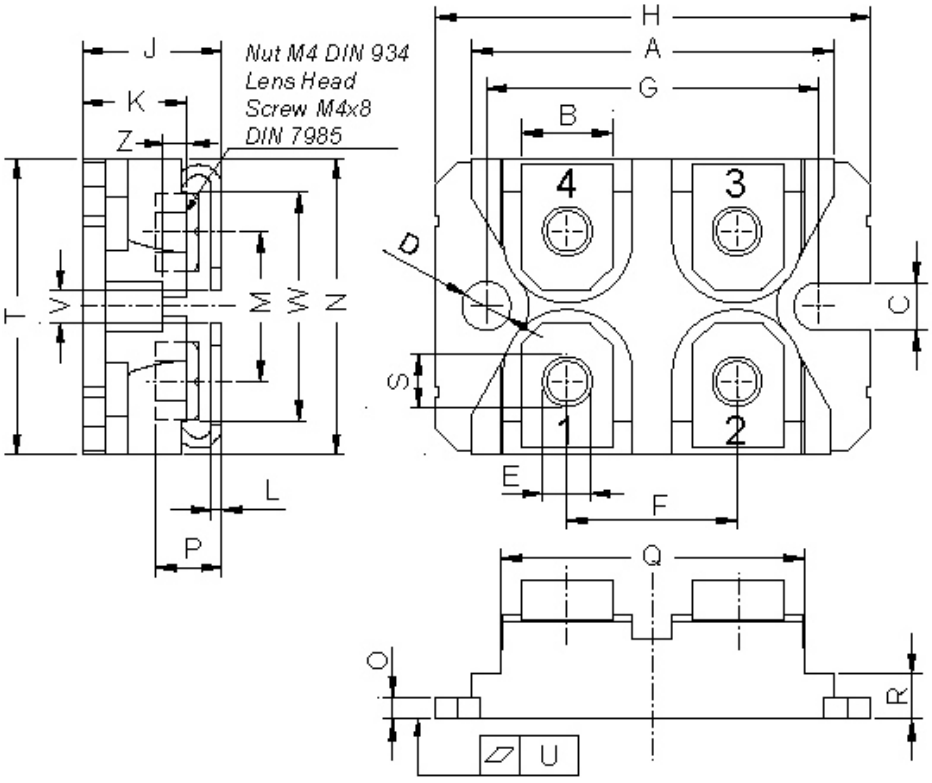
** on die level* T_{VJ} = 150 °C



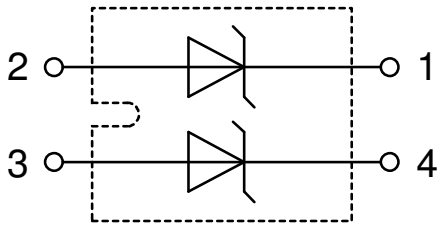
Schottky

$V_{0\,max}$	*threshold voltage*	0.54	V
$R_{0\,max}$	*slope resistance **	0.6	mΩ

Outlines SOT-227B (minibloc)



Dim.	Millimeter		Inches	
	min	max	min	max
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.23	1.488	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.74	0.84	0.029	0.033
M	12.50	13.10	0.492	0.516
N	25.15	25.42	0.990	1.001
O	1.95	2.13	0.077	0.084
P	4.95	6.20	0.195	0.244
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.167
S	4.55	4.85	0.179	0.191
T	24.59	25.25	0.968	0.994
U	-0.05	0.10	-0.002	0.004
V	3.20	5.50	0.126	0.217
W	19.81	21.08	0.780	0.830
Z	2.50	2.70	0.098	0.106



Schottky

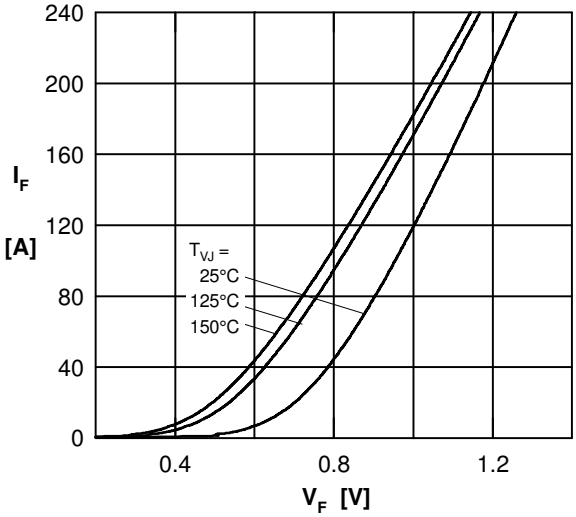


Fig. 1 Max. forward voltage drop characteristics

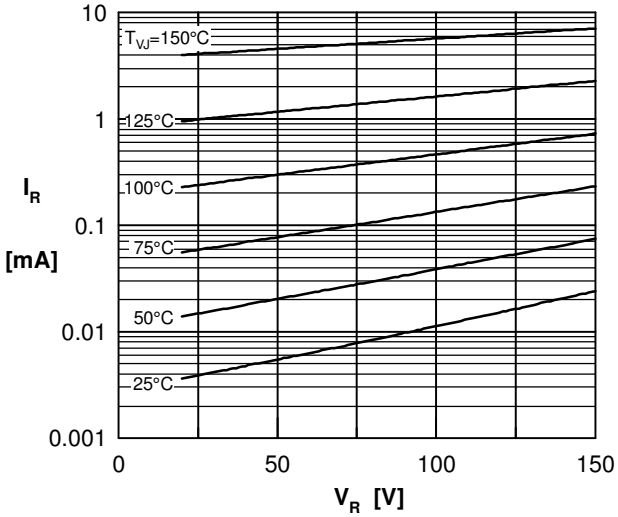


Fig. 2 Typ. reverse current I_R versus reverse voltage V_R

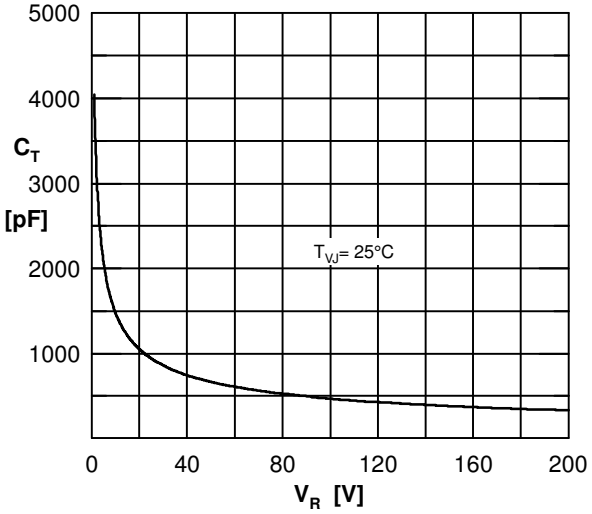


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

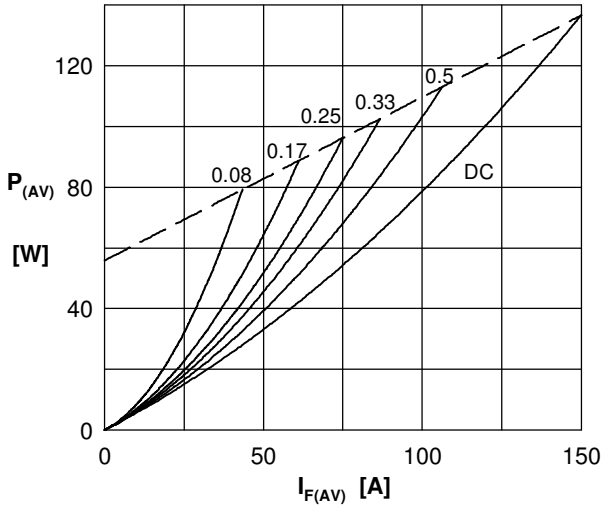


Fig. 4 Forward power loss characteristics

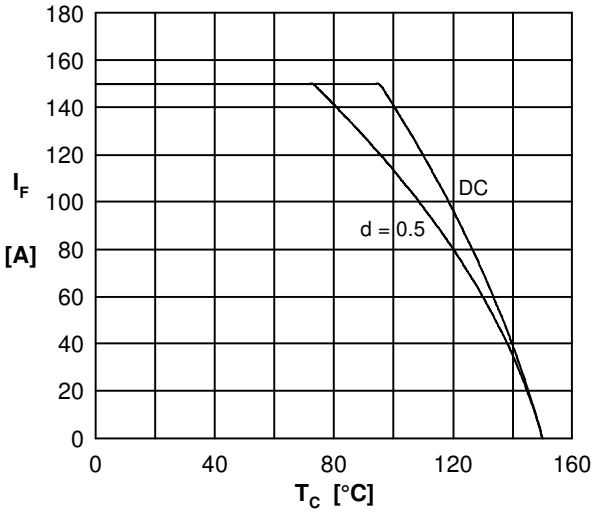


Fig. 5 Average forward current $I_{F(AV)}$ versus case temperature T_C

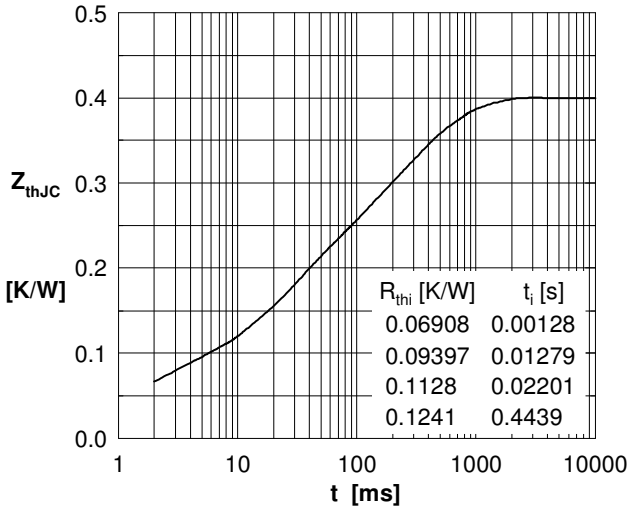


Fig. 6 Transient thermal impedance junction to case