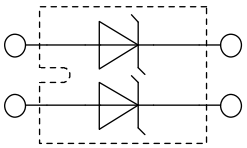
Schottky Diode

V_{RRM} = 200 V
I_{FAV} = 2x 100 A
V_F = 0.84 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Parallel legs

Part number

DSS2x101-02A



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:

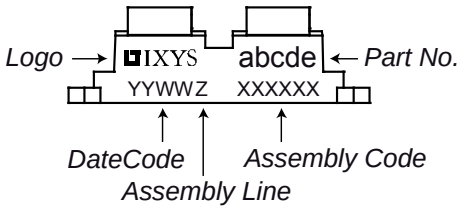
- Housing: SOT-227B (minibloc)
- Industry standard outline
- Cu base plate internal DCB isolated
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

Ratings

Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RRM}	*max. repetitive reverse voltage*		T_{VJ} = 25°C			200	V
I_R	*reverse current*	V_R = 200 V	T_{VJ} = 25°C			4	mA
		V_R = 200 V	T_{VJ} = 125°C			10	mA
V_F	*forward voltage*	I_F = 100 A	T_{VJ} = 25°C			0.94	V
		I_F = 200 A				1.16	V
		I_F = 100 A	T_{VJ} = 125°C			0.84	V
		I_F = 200 A				1.11	V
I_{FAV}	*average forward current*	rectangular d = 0.5	T_C = 105°C			100	A
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 150°C			0.54	V
r_F	*slope resistance* }					2.7	mΩ
R_{thJC}	*thermal resistance junction to case*					0.40	K/W
T_{VJ}	*virtual junction temperature*			-40		150	°C
P_{tot}	*total power dissipation*		T_C = 25°C			310	W
I_{FSM}	*max. forward surge current*	t = 10 ms (50 Hz), sine	T_{VJ} = 45°C			1400	A
C_J	*junction capacitance*	V_R = 24 V; f = 1 MHz	T_{VJ} = 25°C		787		pF

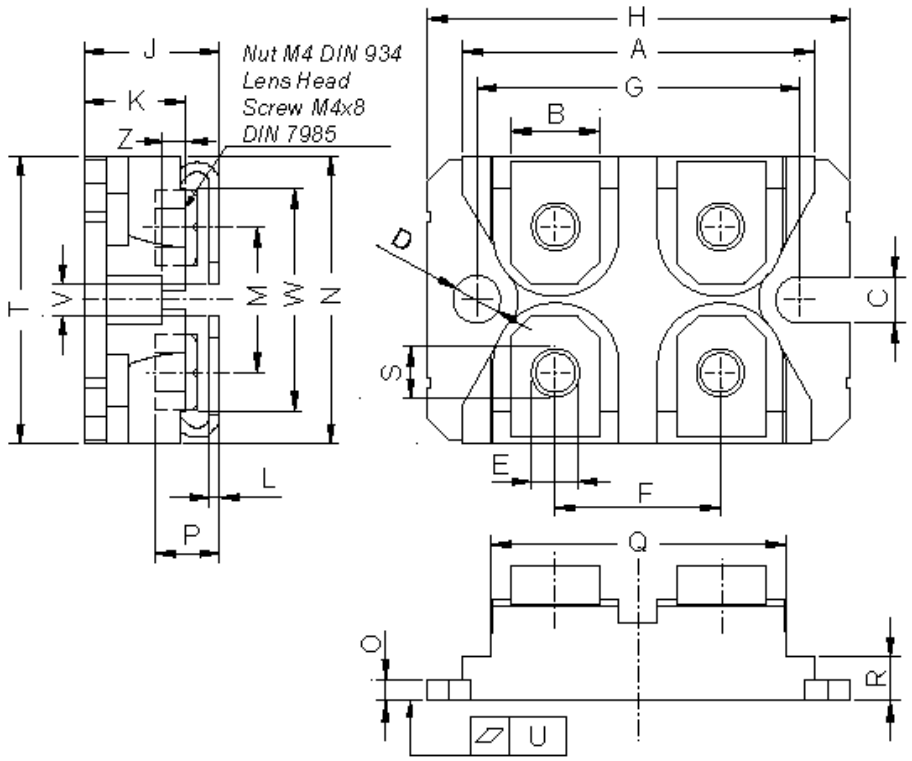
Symbol	Definition	Conditions		Ratings min.	typ.	max.	Unit
I_{RMS}	*RMS current*	per terminal				150	A
R_{thCH}	*thermal resistance case to heatsink*				0.10		K/W
T_{stg}	*storage temperature*			-40		150	°C
Weight					30		g
M_D	*mounting torque*			1.1		1.5	Nm
M_T	*terminal torque*			1.1		1.5	Nm
V_{ISOL}	*isolation voltage*	t = 1 second		3000			V
		t = 1 minute		2500			V
$d_{Spp/App}$	*creepage | striking distance on surface | through air*	*terminal to terminal*	10.5	3.2			mm
$d_{Spb/Apb}$	*creepage | striking distance on surface | through air*	*terminal to backside*	8.6	6.8			mm

Product Marking



Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DSS2x101-02A	DSS2x101-02A	Tube	10	500867

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

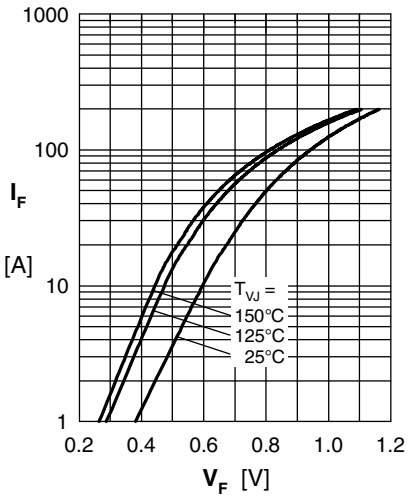


Fig. 1 Maximum forward voltage drop characteristics

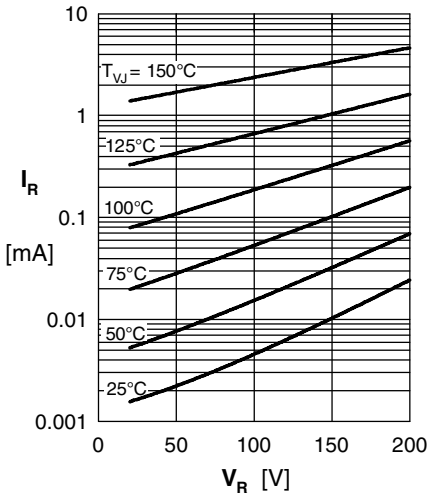


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

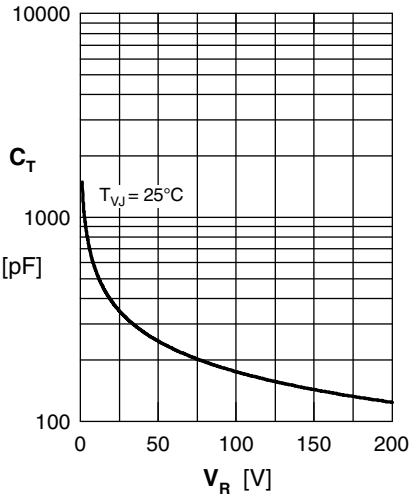


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

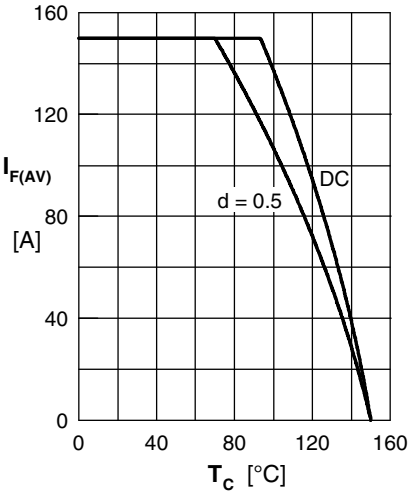


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temperature T_C

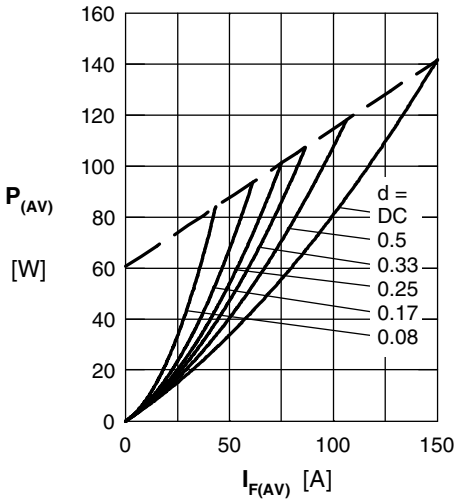


Fig. 5 Forward power loss characteristics

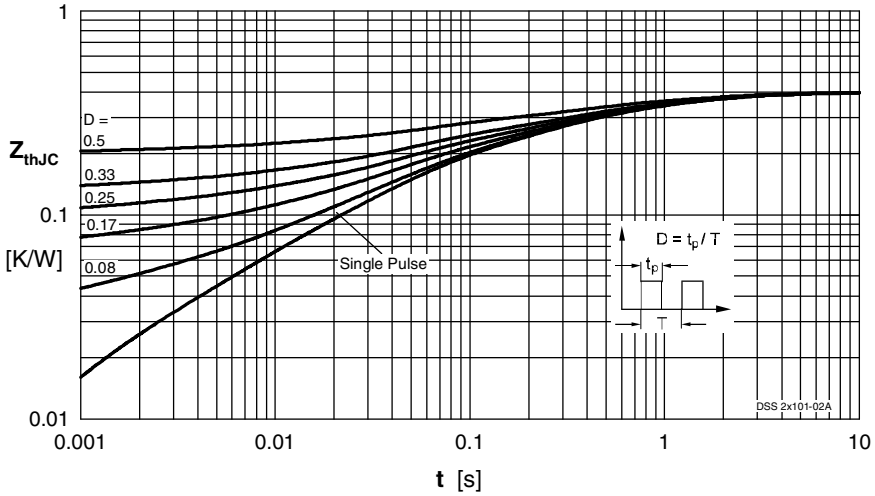


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode