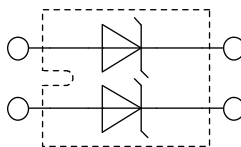


Schottky Diode

High Performance Schottky Diode
Low Loss and Soft Recovery
Parallel legs

Part number

DSS2x41-01A



Backside: isolated

 E72873

Features / Advantages:

- Very low V_f
- Extremely low switching losses
- low I_{rm} 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:

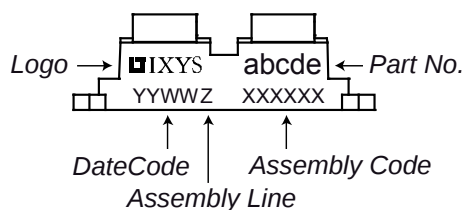
- Housing: SOT-227B (minibloc)
- Industry standard outline
- Cu base plate internal DCB isolated
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

Ratings

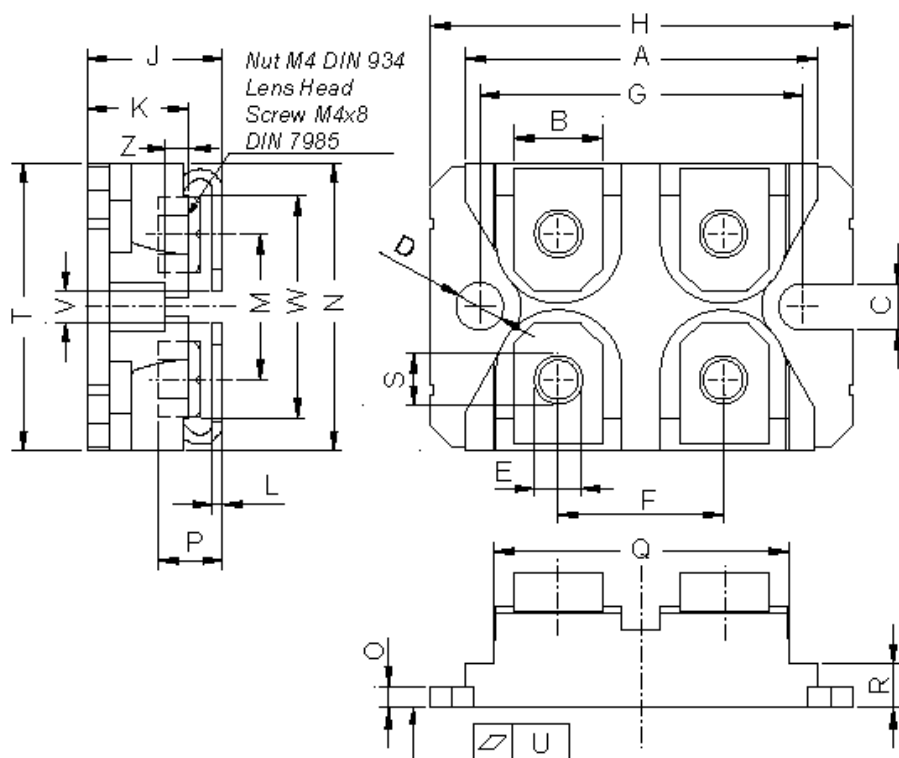
Symbol	Definition	Conditions			min.	typ.	max.	Unit
V _{RRM}	max. repetitive reverse voltage			T _{VJ} = 25 °C			100	V
I _R	reverse current	V _R = 100 V		T _{VJ} = 25 °C			1	mA
		V _R = 100 V		T _{VJ} = 125 °C			10	mA
V _F	forward voltage	I _F = 40 A		T _{VJ} = 25 °C			0.88	V
		I _F = 80 A					1.05	V
		I _F = 40 A		T _{VJ} = 125 °C			0.70	V
		I _F = 80 A					0.88	V
I _{FAV}	average forward current	rectangular	d = 0.5	T _C = 110 °C			40	A
V _{F0}	threshold voltage	} for power loss calculation only					0.49	V
r _F	slope resistance						4.3	mΩ
R _{thJC}	thermal resistance junction to case						1.10	K/W
T _{VJ}	virtual junction temperature				-40		150	°C
P _{tot}	total power dissipation			T _C = 25 °C			110	W
I _{FSM}	max. forward surge current	t = 10 ms (50 Hz), sine		T _{VJ} = 45 °C			450	A
C _J	junction capacitance	V _R = 12 V; f = 1 MHz		T _{VJ} = 25 °C		572		pF

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per terminal			70	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	DSS2x41-01A	DSS2x41-01A	Tube	10	475556

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

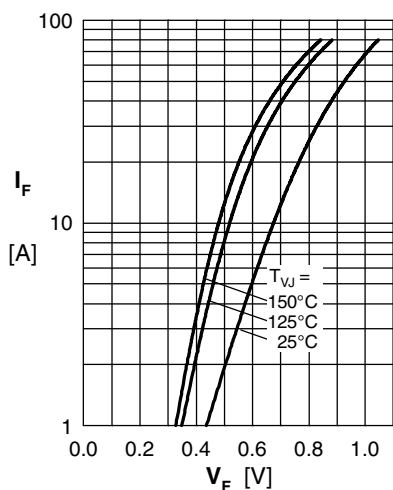


Fig. 1 Maximum forward voltage drop characteristics

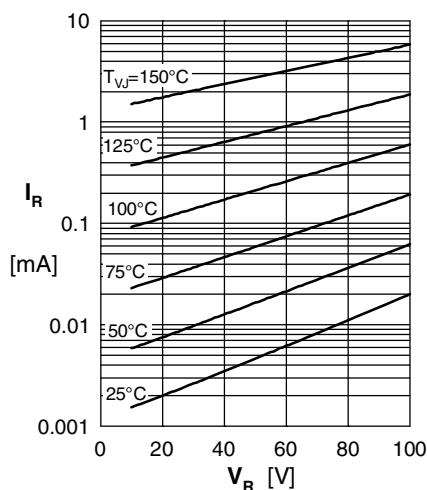


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

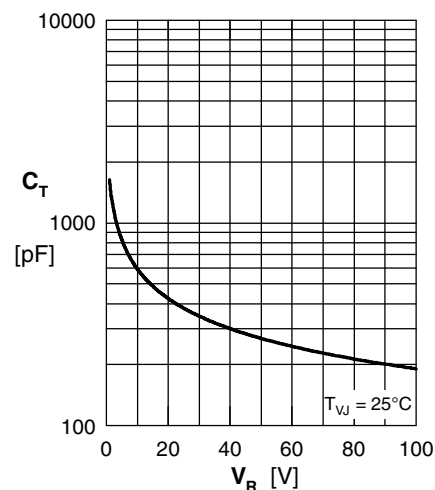


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

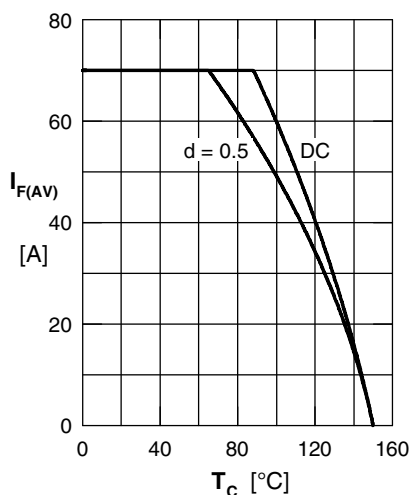


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temperature T_C

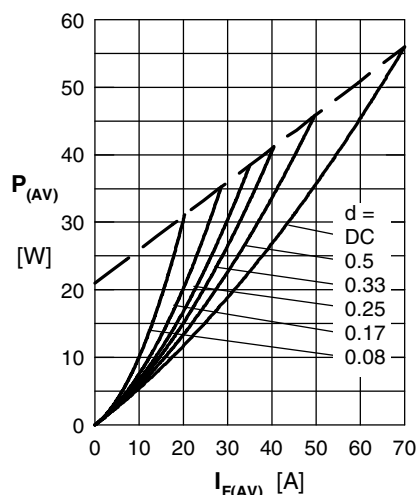


Fig. 5 Forward power loss characteristics

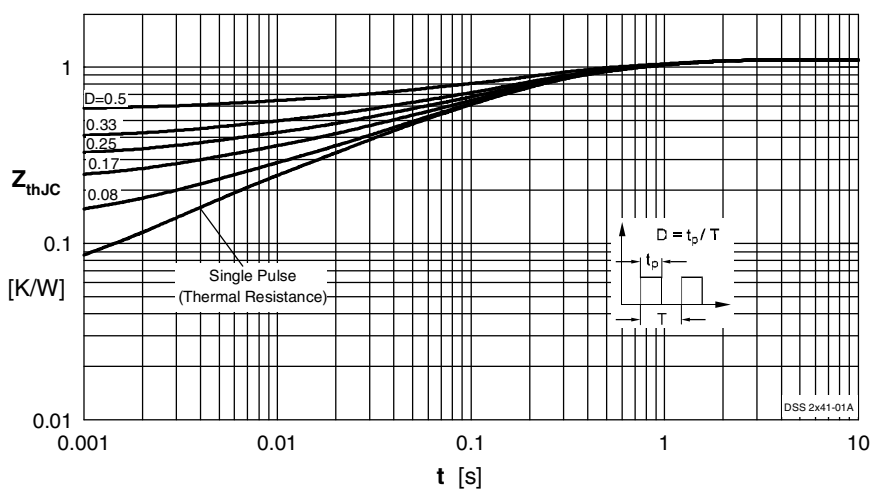


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode