

Power Schottky Rectifier

Non isolated

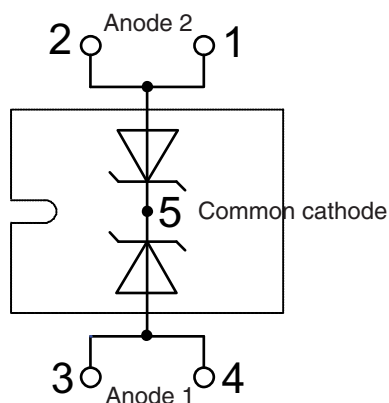
$$I_{FAVM} = 2x160 \text{ A}$$

$$V_{RRM} = 100 \text{ V}$$

$$V_F = 0.81 \text{ V}$$

Part number

DSS 2x160-01A



Features / Advantages:

- Very low V_F
- Extremely low switching losses
- Low I_{RM} -values
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

Applications:

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

Package: SOT-227UI (minibloc)

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Base plate: Copper (non isolated)
- Advanced power cycling

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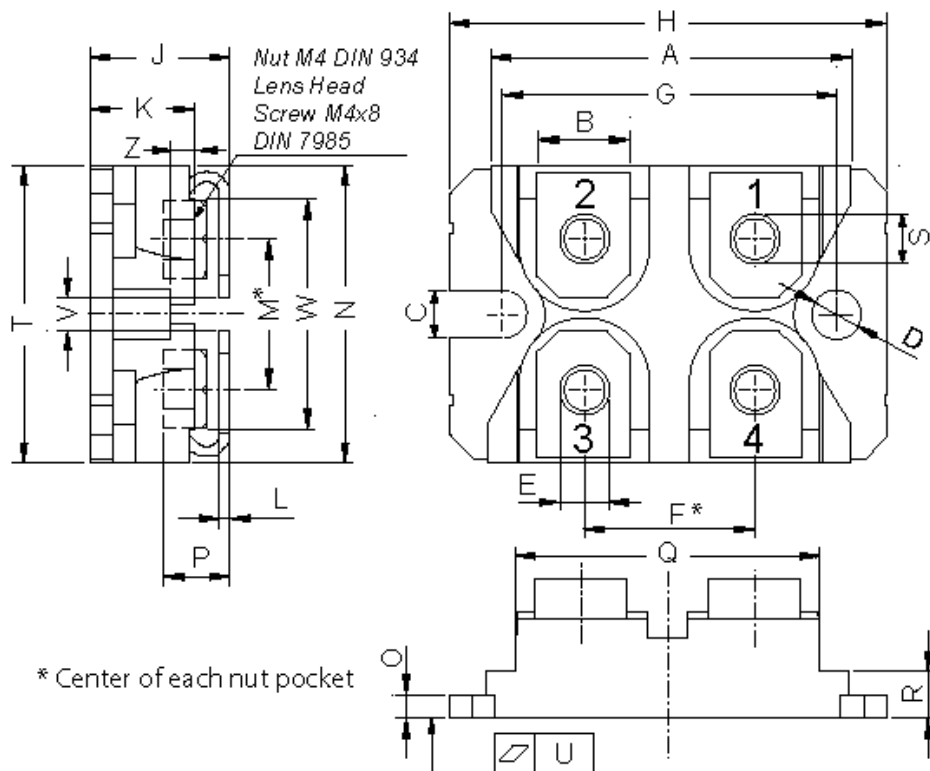
Symbol	Conditions	Maximum Ratings	
I_{FRMS}		200	A
I_{FAVM}	$T_C = 95^\circ\text{C}$; rectangular, $d = 0.5$	160	A
I_{FAVM}	$T_C = 95^\circ\text{C}$; rectangular, $d = 0.5$; per device	320	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t = 10\text{ ms}$ (50 Hz), sine	1400	A
E_{AS}	$I_{AS} = 15\text{ A}$; $L = 100\text{ }\mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive	11.3	mJ
I_{AR}	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10\text{ kHz}$; repetitive	1.5	A
$(dv/dt)_{cr}$		5000	V/ μs
P_{tot}	$T_C = 25^\circ\text{C}$	410	W

Symbol	Conditions	Characteristic Values		
		typ.	max.	
I_R ①	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$		4	mA
	$V_R = V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$		40	mA
V_F	$I_F = 160\text{ A}$ $T_{VJ} = 125^\circ\text{C}$		0.81	V
	$T_{VJ} = 25^\circ\text{C}$		0.98	V
	$I_F = 320\text{ A}$ $T_{VJ} = 125^\circ\text{C}$		1.08	V
R_{thJC}			0.30	K/W
R_{thCH}		0.15		K/W

① Pulse Width = 5 ms, Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified

Outlines SOT-227B (minibloc)



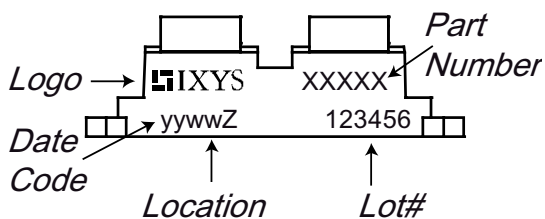
Dim.	Millimeter		Inches	
	min	max	min	max
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.23	1.488	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.74	0.84	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

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Package SOT-227UI (minibloc)				Ratings			
Symbol	Definitions	Conditions		min.	typ.	max.	
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	0.8			Nm
$d_{Spb/Apb}$		terminal to backside	8.6	20			N

Product Marking



Ordering	Part Number	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	DSS2x160-01A	DSS2x160-01A	Tube	10	DSS2x160-01A



Curves

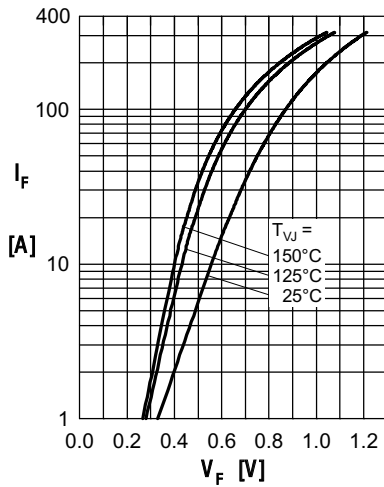


Fig. 1 Max. forward voltage drop characteristics

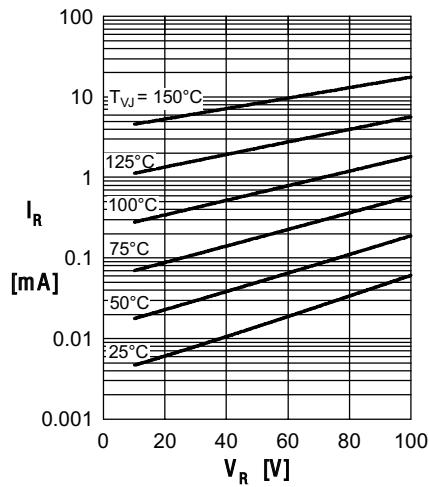


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

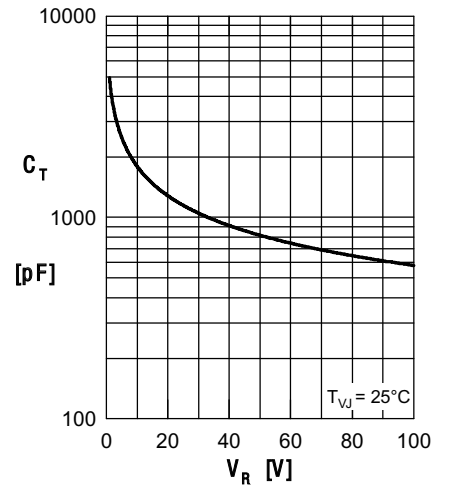


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

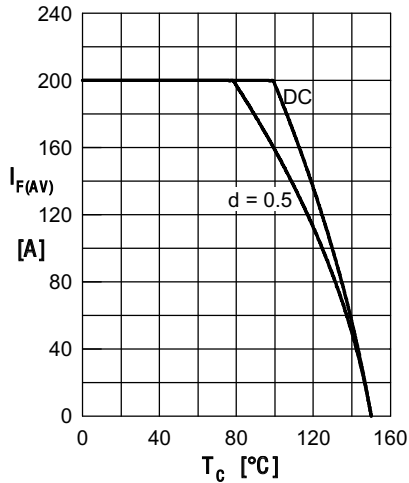


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temp. T_C

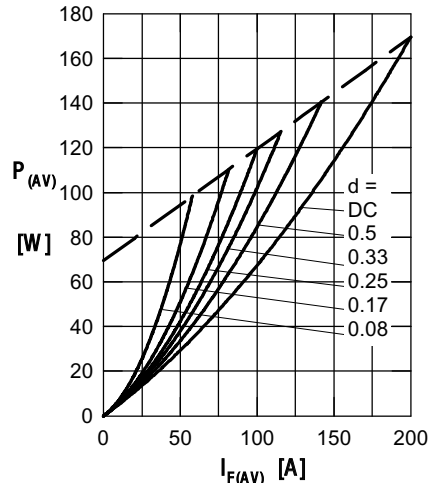


Fig. 5 Forward power loss characteristics

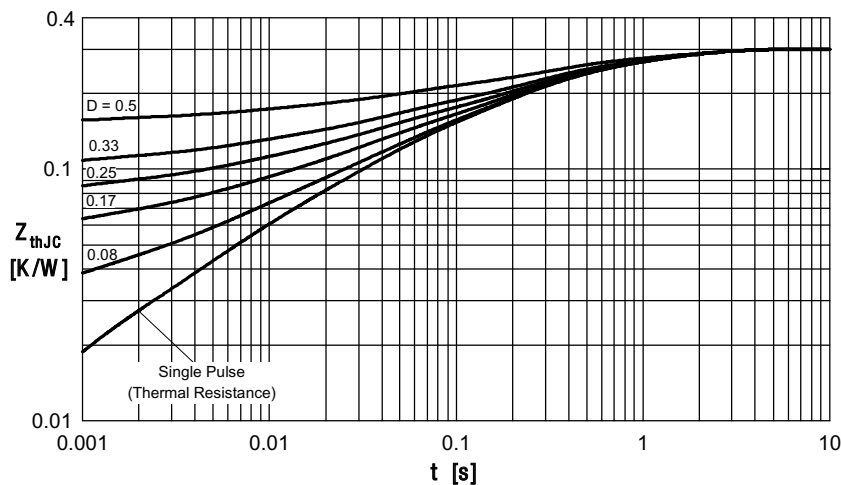


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode