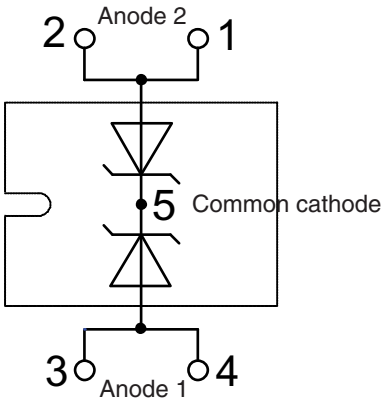
Power Schottky Rectifier

Non isolated

I_{FAVM} = 2x160 A
V_{RRM} = 45 V
V_F = 0.72 V

Part number

DSS 2x160-0045A



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

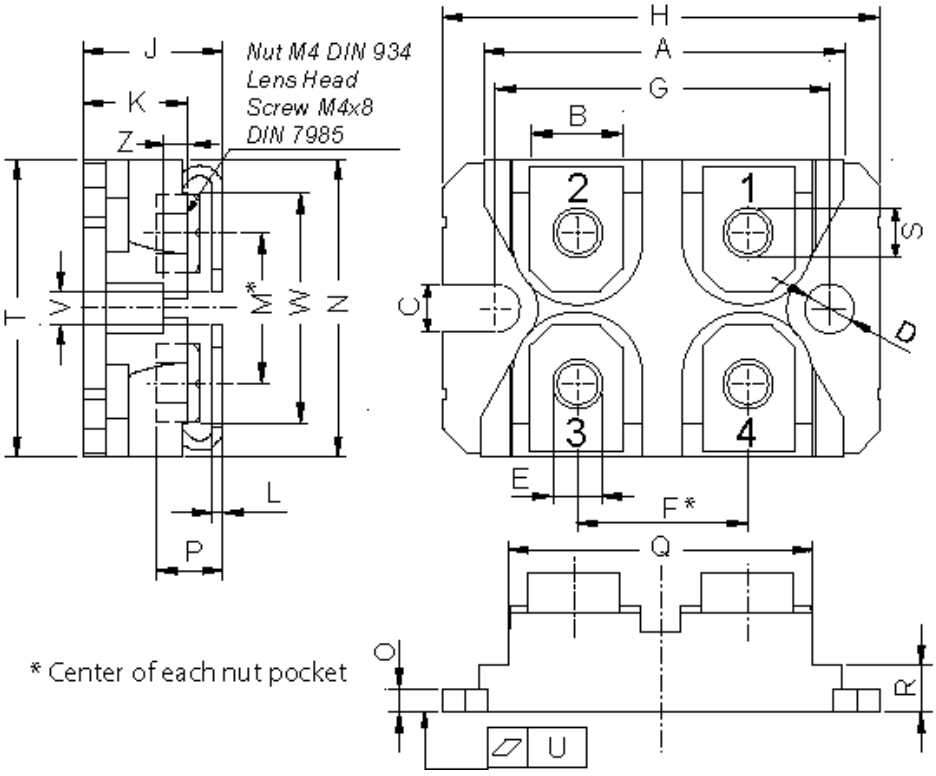
Symbol	Conditions	Maximum Ratings	
I_{FRMS}		200	A
I_{FAVM}	T_C = 100°C; rectangular, d = 0.5	160	A
I_{FAVM}	T_C = 100°C; rectangular, d = 0.5; per device	320	A
I_{FSM}	T_{VJ} = 45°C; t = 10 ms (50 Hz), sine	1600	A
E_{AS}	I_{AS} = 28 A; L = 180 µH; T_{VJ} = 25°C; non repetitive	112	mJ
I_{AR}	V_A =1.5 • V_{RRM} typ.; f = 10 kHz; repetitive	2.8	A
$(dv/dt)_{cr}$		1000	V/µs
P_{tot}	T_C = 25°C	410	W

Symbol	Conditions		Characteristic Values typ.	max.	
I_R ①	$V_R = V_{RRM}$	T_{VJ} = 25°C		4	mA
	$V_R = V_{RRM}$	T_{VJ} = 125°C		40	mA
V_F	I_F = 160 A	T_{VJ} = 125°C		0.72	V
		T_{VJ} = 25°C		0.80	V
	I_F = 320 A	T_{VJ} = 125°C		0.98	V
R_{thJC}				0.3	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)



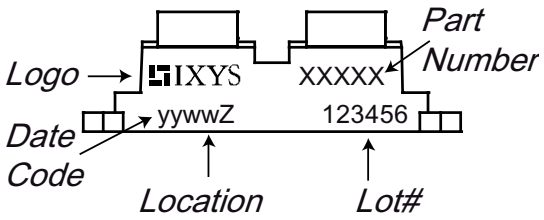
Dim.	Millimeter min	Millimeter max	Inches min	Inches max
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.23	1.488	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351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

IXYS reserves the right to change limits, test conditions and dimensions.

20220623a

Package	SOT-227B (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}	*opertation 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	DSS2x160-0045A	DSS2x160-0045A	Tube	10	DSS2x160-0045A

Curves

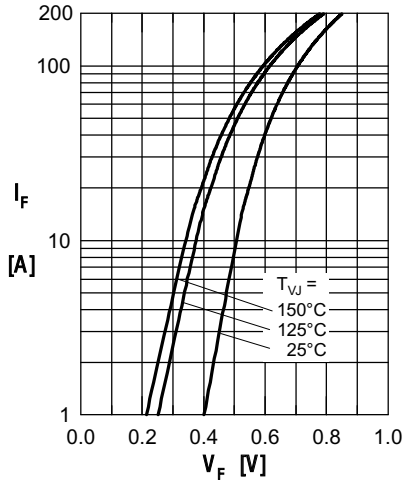


Fig. 1 Max. forward voltage drop characteristics

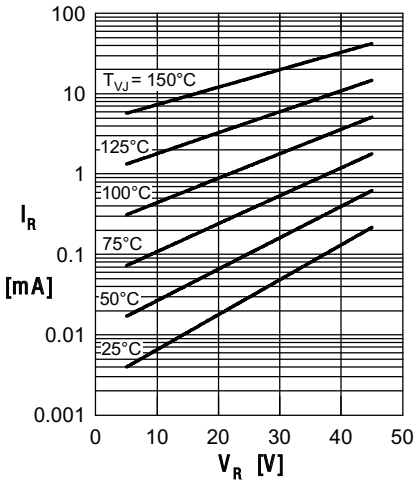


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

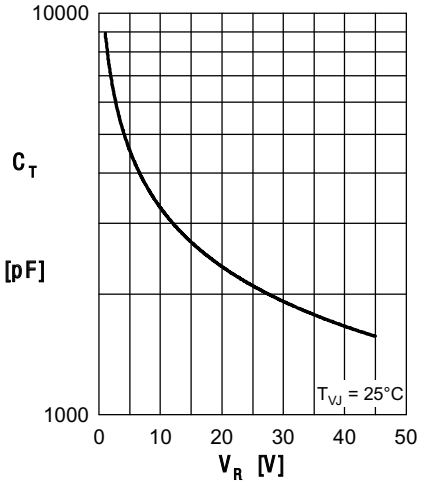


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

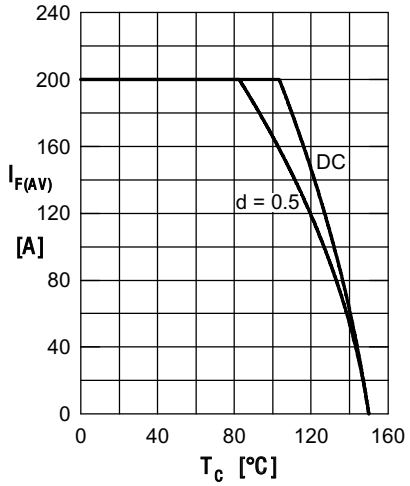


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temp. T_C

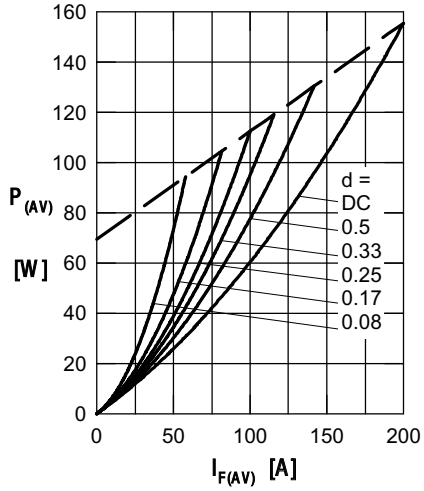


Fig. 5 Forward power loss characteristics

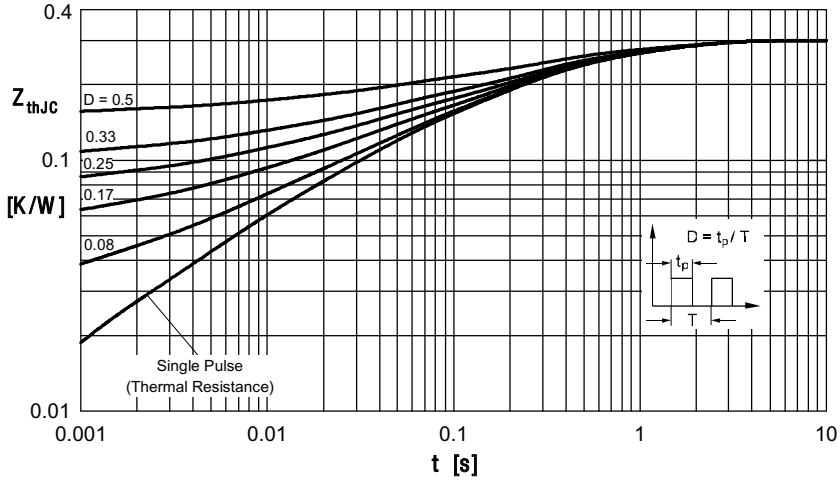


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode