

Power Schottky Rectifier

Non isolated

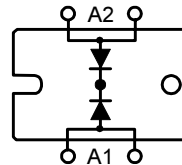
Preliminary Data

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

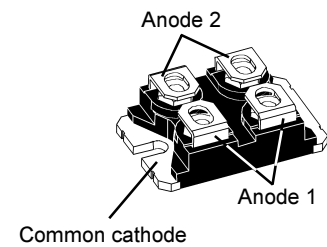
$$V_{RRM} = 45 \text{ V}$$

$$V_F = 0.73 \text{ V}$$

V_{RSM}	V_{RRM}	Type
V	V	
45	45	DSS 2x160-0045A



miniBLOC, SOT-227 B



Symbol	Conditions	Maximum Ratings	
I_{FRMS}		200	A
I_{FAVM}	$T_C = 100^\circ\text{C}$; rectangular, $d = 0.5$	160	A
I_{FAVM}	$T_C = 100^\circ\text{C}$; rectangular, $d = 0.5$; per device	320	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	1600	A
E_{AS}	$I_{AS} = 28 \text{ A}$; $L = 180 \mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive	112	mJ
I_{AR}	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$; repetitive	2.8	A
$(dv/dt)_{cr}$		1000	V/ μs
T_{VJ}		-40...+150	$^\circ\text{C}$
T_{VJM}		150	$^\circ\text{C}$
T_{stg}		-40...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	410	W
M_d	mounting torque (M4)	1.1-1.5/9-13	Nm/lb.in.
	terminal connection torque (M4)	1.1-1.5/9-13	Nm/lb.in.
Weight	typical	30	g

Features

- International standard package miniBLOC
- Epoxy meets UL 94V-0
- Very low V_F
- Extremely low switching losses
- Low I_{RM} -values

Applications

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

Advantages

- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

Dimensions see outlines.pdf

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		4 mA 40 mA
V_F	$I_F = 160 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$ $I_F = 320 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.73 V 0.80 V 0.99 V
R_{thJC}		0.15	0.3 K/W
R_{thCH}			K/W

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
Data according to IEC 60747 and per diode unless otherwise specified

IXYS reserves the right to change limits, Conditions and dimensions.

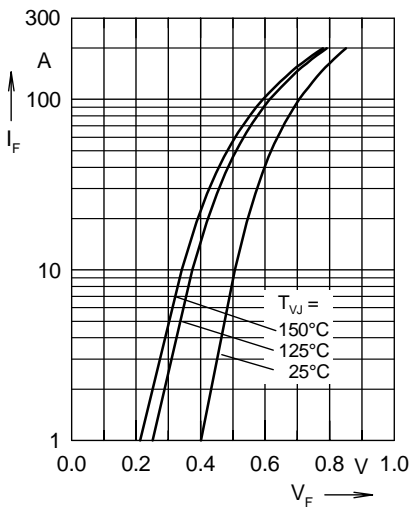


Fig. 1 Maximum forward voltage drop characteristics

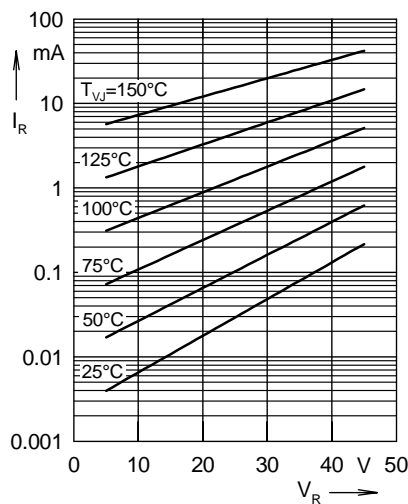


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

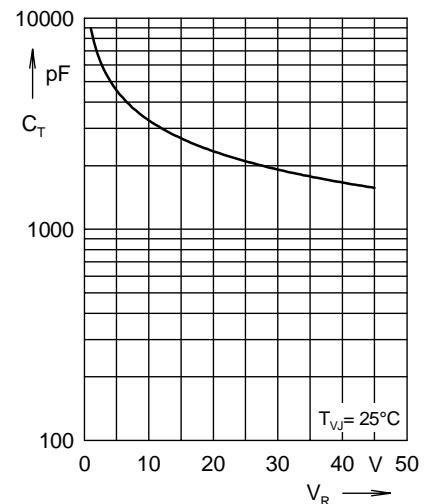


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

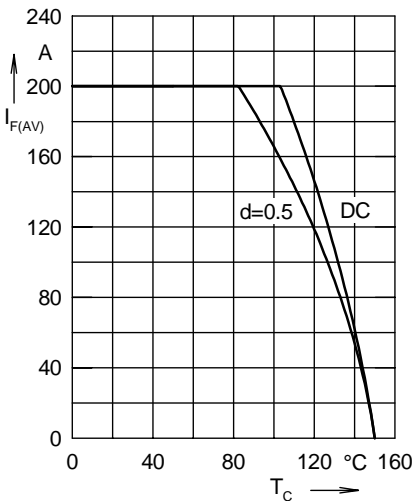


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

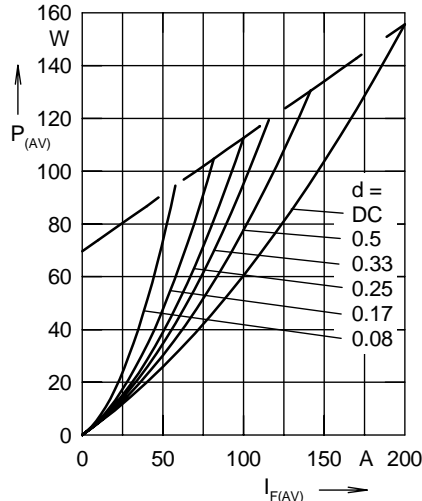


Fig. 5 Forward power loss characteristics

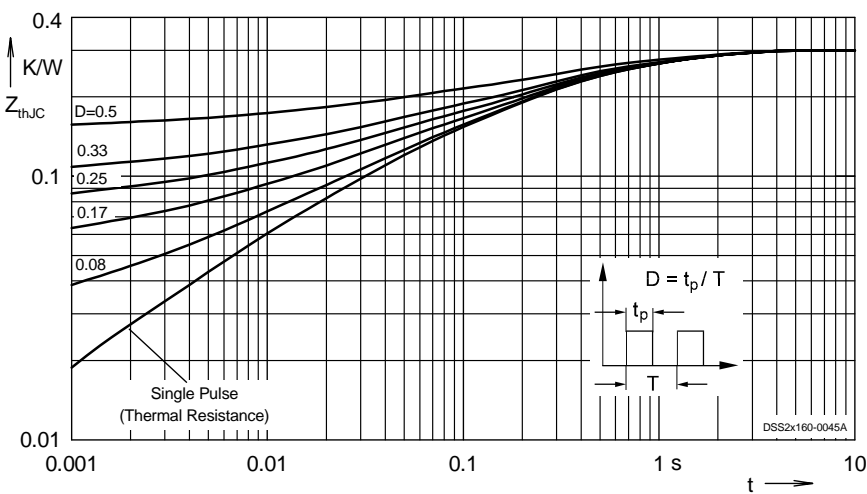


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode