

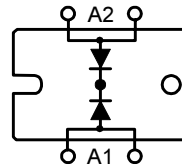
# Power Schottky Rectifier

## Non isolated

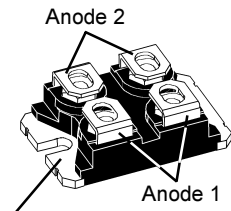
### Preliminary Data

$I_{FAVM} = 2x160 \text{ A}$   
 $V_{RRM} = 100 \text{ V}$   
 $V_F = 0.80 \text{ V}$

$V_{RSM}$	$V_{RRM}$	Type
V	V	
100	100	DSS 2x160-01A



miniBLOC, SOT-227 B



Common cathode

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
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine	1400	A
$E_{AS}$	$I_{AS} = 17 \text{ A}$ ; $L = 180 \mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive	31	mJ
$I_{AR}$	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$ ; repetitive	1.7	A
$(dv/dt)_{cr}$		5000	V/ $\mu\text{s}$
$T_{VJ}$		-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.
<b>Weight</b>	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	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$	4	mA
	$T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$	40	mA
$V_F$	$I_F = 160 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$	0.80	V
	$T_{VJ} = 25^\circ\text{C}$	0.92	V
	$I_F = 320 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$	1.06	V
$R_{thJC}$		0.30	K/W
$R_{thCH}$	0.15		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.

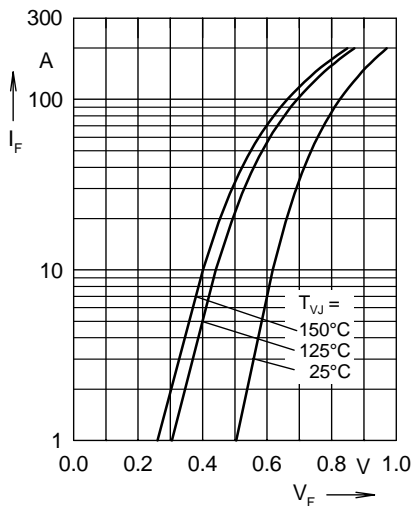


Fig. 1 Maximum forward voltage drop characteristics

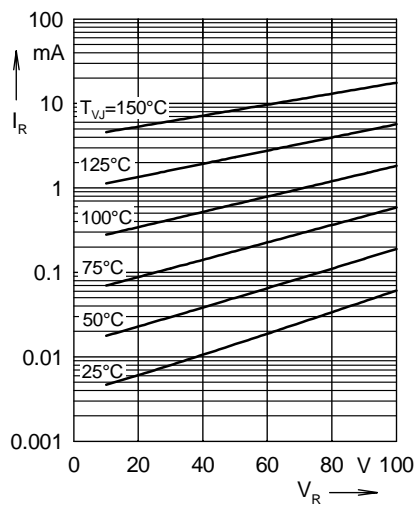


Fig. 2 Typ. value of reverse current  $I_R$  versus reverse voltage  $V_R$

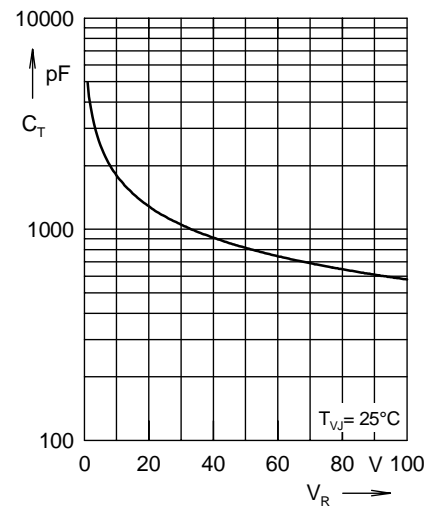


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

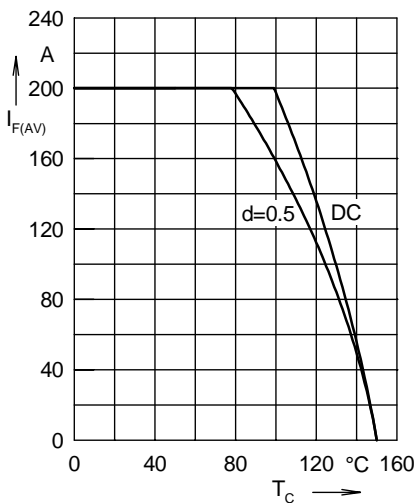


Fig. 4 Average forward current  $I_{F(AV)}$  versus case temperature  $T_C$

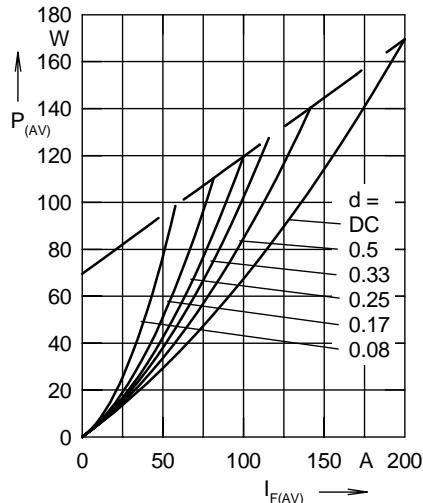


Fig. 5 Forward power loss characteristics

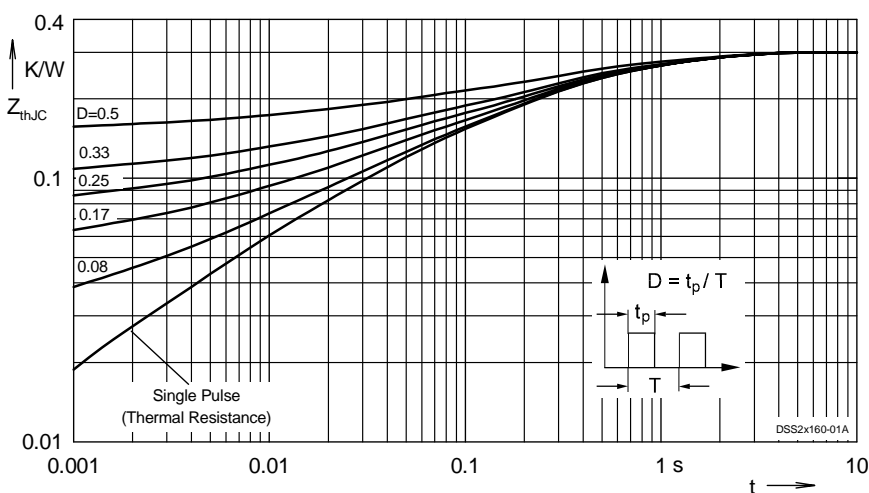


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode