

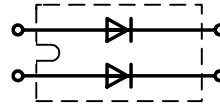
# Fast Recovery Epitaxial Diode (FRED)

$$V_{RRM} = 1800 \text{ V}$$

$$I_{FAVM} = 2 \times 60 \text{ A}$$

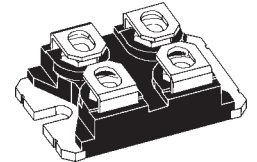
$$t_{rr} = 350 \text{ ns}$$

$V_{RSM}$	$V_{RRM}$	Type
V	V	
1800	1800	DH 2x 61-18A



miniBLOC, SOT-227 B

E72873



Symbol	Conditions	Maximum Ratings	
$I_{F(RMS)}$	$T_{VJ} = T_{VJM}$	100	A
$I_{F(AVM)}$	$T_C = 25^\circ\text{C}$ ; rectangular, $d = 0.5$	60	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz), sine	650	A
$E_{AS}$	$T_{VJ} = 25^\circ\text{C}$ ; non-repetitive $I_{AS} = \text{tbd A}$ ; $L = 100 \mu\text{H}$	tbd	mJ
$I_{AR}$	$V_A = 1.25 \cdot V_R$ typ.; $f = 10 \text{ kHz}$ ; repetitive	tbd	A
$T_{VJ}$		-40...+150	$^\circ\text{C}$
$T_{VJM}$		150	$^\circ\text{C}$
$T_{stg}$		-40...+150	$^\circ\text{C}$
$P_{tot}$	$T_C = 25^\circ\text{C}$	200	W
$V_{ISOL}$	50/60 Hz, RMS; $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
$M_d$	Mounting torque	1.1-1.5	Nm
	Terminal connection torque (M4)	1.1-1.5	Nm
<b>Weight</b>		30	g

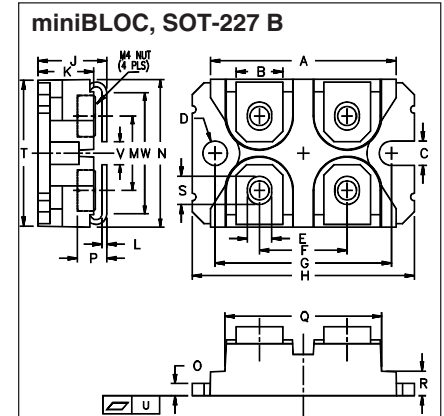
## Features

- International standard package
- miniBLOC (ISOTOP compatible)
- Isolation voltage 2500 V~
- matched diodes f. parallel operation
- Planar passivated chips
- two independent diodes
- Very short recovery time
- Extremely low switching losses
- Low  $I_{RM}$ -values
- Soft recovery behaviour

Symbol	Conditions	Characteristic Values	
		typ.	max.
$I_R$	$V_R = V_{RRM}$ ; $T_{VJ} = 25^\circ\text{C}$		200 $\mu\text{A}$
	$V_R = V_{RRM}$ ; $T_{VJ} = 125^\circ\text{C}$		2 mA
$V_F$	$I_F = 60 \text{ A}$ ; $T_{VJ} = 150^\circ\text{C}$		2.61 V
	$I_F = 60 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$		2.63 V
$R_{thJC}$		0.1	0.6 K/W
$R_{thCH}$			K/W
$t_{rr}$	$I_F = 100 \text{ A}$ ; $-di/dt = 600 \text{ A}/\mu\text{s}$ ;	350	ns
$I_{RM}$	$V_R = 1200 \text{ V}$ ; $T_{VJ} = 125^\circ\text{C}$	55	A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %  
 ② Pulse Width = 300  $\mu\text{s}$ , Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified.



M4 screws (4x) supplied

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	38.20	1.489	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.76	0.84	0.030	0.033
M	12.60	12.85	0.496	0.506
N	25.15	25.42	0.990	1.001
O	1.98	2.13	0.078	0.084
P	4.95	5.97	0.195	0.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.174
S	4.72	4.85	0.186	0.191
T	24.59	25.07	0.968	0.987
U	-0.05	0.1	-0.002	0.004
V	3.30	4.57	0.130	0.180
W	0.780	0.830	0.031	0.033

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