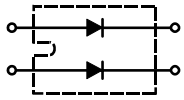
Rectifier Diode

$I_{F(AV)M}$ = 2x 56 A
V_{RRM} = 1200-1600 V

V_{RSM} V	V_{RRM} V	Type
1300	1200	DSI 2x55-12A
1700	1600	DSI 2x55-16A



miniBLOC, SOT-227 B
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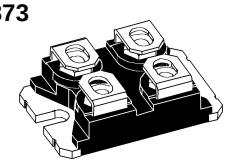


Features
- International standard package miniBLOC (ISOTOP compatible)
- Isolation voltage 2500 V~
- 2 independent rectifier diodes in one package
- Planar passivated chips

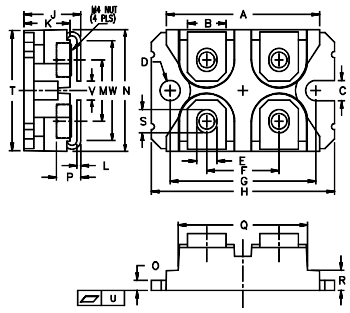
Applications
- Input rectifier diode
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

Symbol	Conditions		Maximum Ratings (per diode)	
I_{FRMS}			120	A
$I_{F(AV)M}$	T_C = 80°C; 180° sine		56	A
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	650	A
		t = 8.3 ms (60 Hz), sine	700	A
	T_{VJ} = 150°C;	t = 10 ms (50 Hz), sine	570	A
		t = 8.3 ms (60 Hz), sine	610	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	2210	A^2s
		t = 8.3 ms (60 Hz), sine	2060	A^2s
	T_{VJ} = 150°C;	t = 10 ms (50 Hz), sine	1620	A^2s
		t = 8.3 ms (60 Hz), sine	1560	A^2s
T_{VJ}			-40...+150	°C
T_{VJM}			150	°C
T_{stg}			-40...+150	°C
P_{tot}	T_C = 25°C		190	W
V_{ISOL}	50/60 Hz, RMS $I_{ISOL} \leq$ 1 mA		2500	V~
M_d	Mounting torque		1.5/13	Nm/lb.in.
	Terminal connection torque (M4)		1.5/13	Nm/lb.in.
Weight			30	g

Symbol	Conditions		Characteristic Values (per diode) typ.	max.	
I_R	T_{VJ} = 25°C	$V_R = V_{RRM}$		0.3	mA
	T_{VJ} = 150°C			5	mA
V_F	I_F = 60 A;	T_{VJ} = 125°C		1.25	V
		T_{VJ} = 25°C		1.20	V
V_{T0}	For power-loss calculations only			0.8	V
r_T	$T_{VJ} = T_{VJM}$			8	mΩ
R_{thJC}				0.65	K/W
R_{thCH}			0.1		K/W

Data according to IEC 60747

miniBLOC, SOT-227 B



M4 screws (4x) supplied

Dim.	Millimeter Min.	Max.	Inches 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	19.81	21.08

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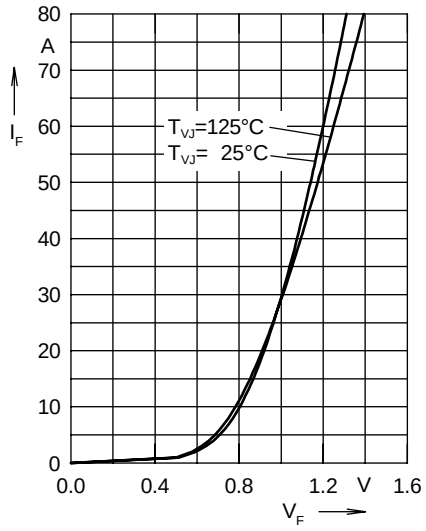

Fig. 1 Forward current versus voltage drop per diode

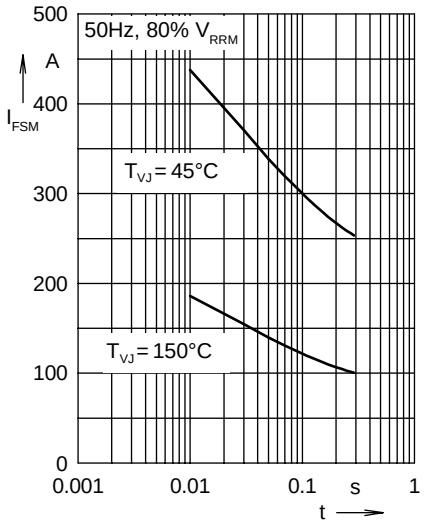

Fig. 2 Surge overload current

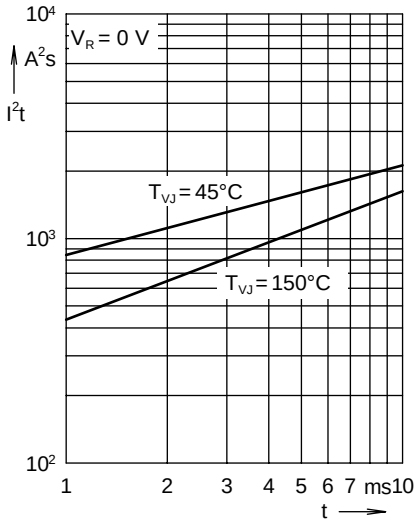

Fig. 3 I^2t versus time per diode

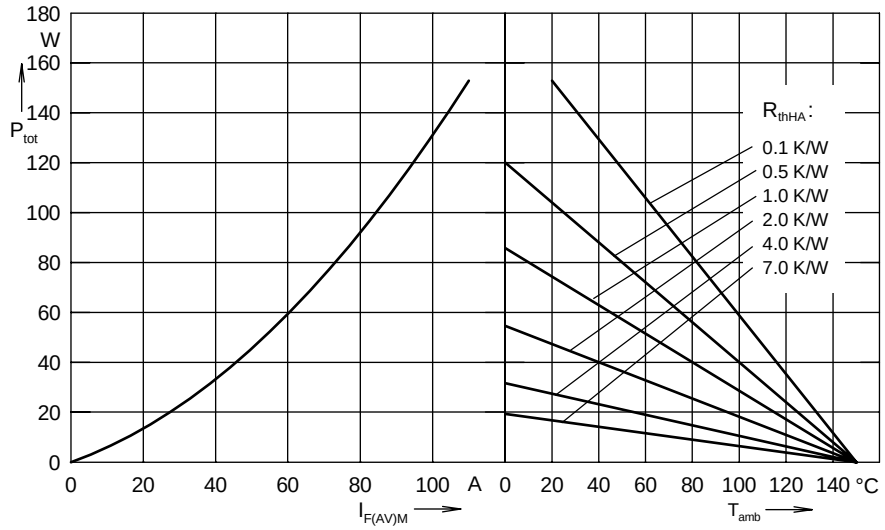

Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

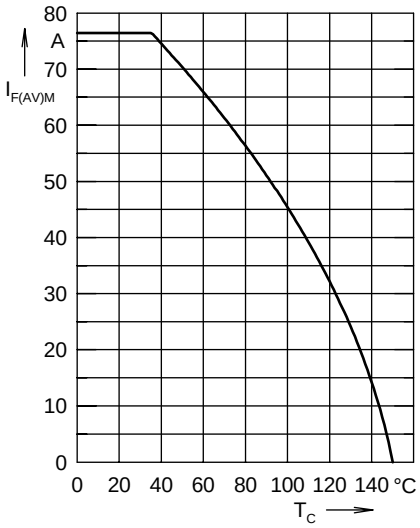

Fig. 5 Max. forward current versus case temperature, sine180°

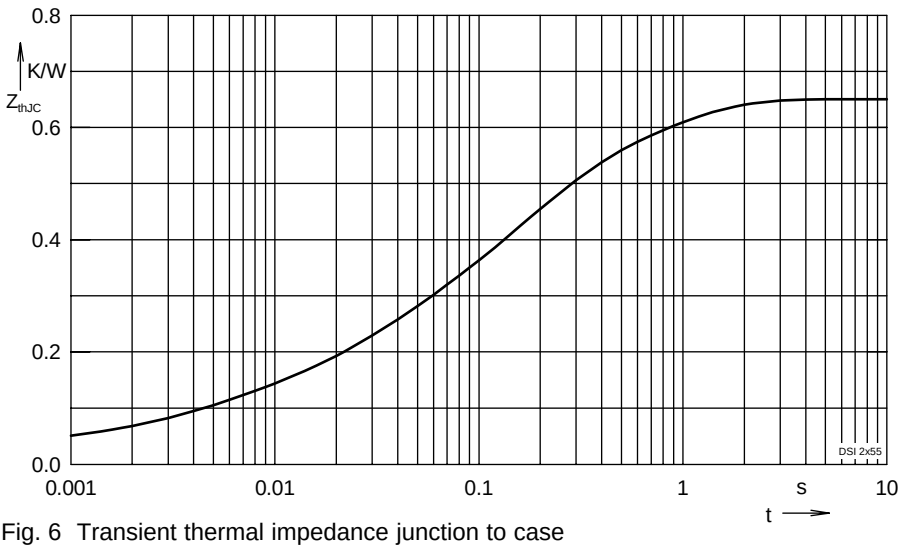

Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.031	0.00024
2	0.0554	0.0036
3	0.114	0.0235
4	0.281	0.142
5	0.1686	0.7