



element14

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[DSI2X55-12A](#)

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the manufacturer

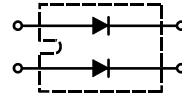
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Rectifier Diode

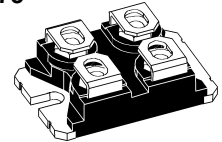
$I_{F(AV)M} = 2 \times 56 \text{ A}$
 $V_{RRM} = 1200-1600 \text{ V}$

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



miniBLOC, SOT-227 B

E72873



Symbol	Conditions	Maximum Ratings (per diode)	
I_{FRMS}	$T_C = 80^\circ\text{C}; 180^\circ \text{ sine}$	120	A
$I_{F(AV)M}$		56	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$ $t = 8.3 \text{ ms (60 Hz), sine}$	650	A
		700	A
	$T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$ $t = 8.3 \text{ ms (60 Hz), sine}$	570	A
		610	A
I^2t	$T_{VJ} = 45^\circ\text{C} t = 10 \text{ ms (50 Hz), sine}$ $t = 8.3 \text{ ms (60 Hz), sine}$	2210	A ² s
		2060	A ² s
	$T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$ $t = 8.3 \text{ ms (60 Hz), sine}$	1620	A ² s
		1560	A ² s
T_{VJ}		-40...+150	°C
T_{VJM}		150	°C
T_{stg}		-40...+150	°C
P_{tot}	$T_C = 25^\circ\text{C}$	190	W
V_{ISOL}	50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$	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

Features

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

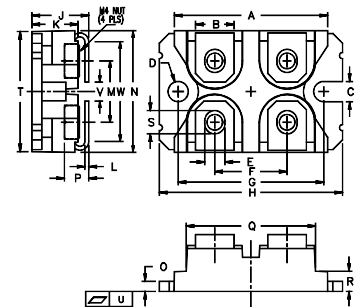
Applications

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

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

Data according to IEC 60747

miniBLOC, SOT-227 B



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

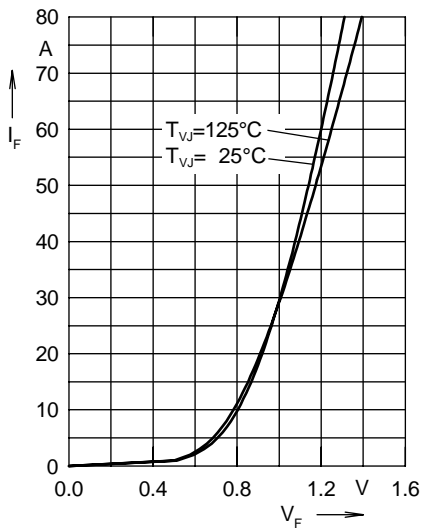


Fig. 1 Forward current versus voltage drop per diode

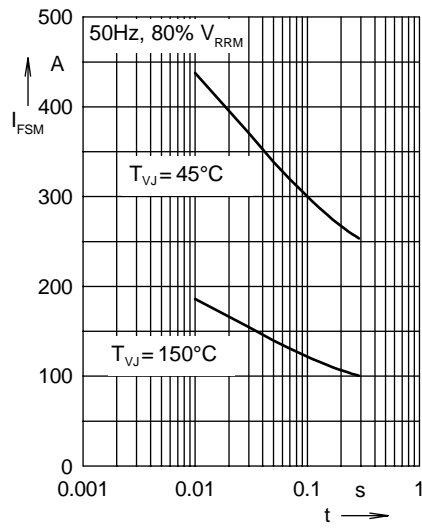


Fig. 2 Surge overload current

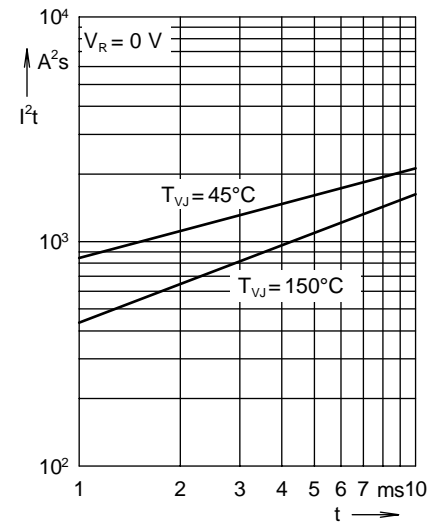


Fig. 3 I^2t versus time per diode

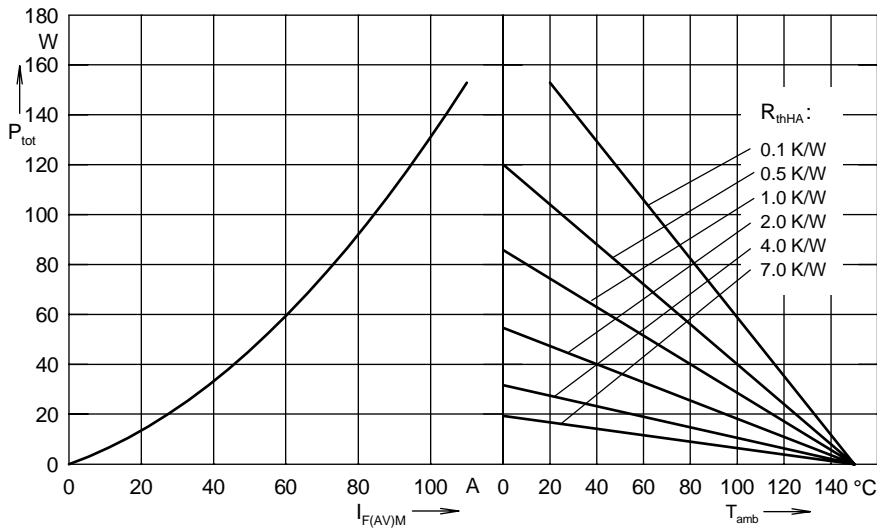


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

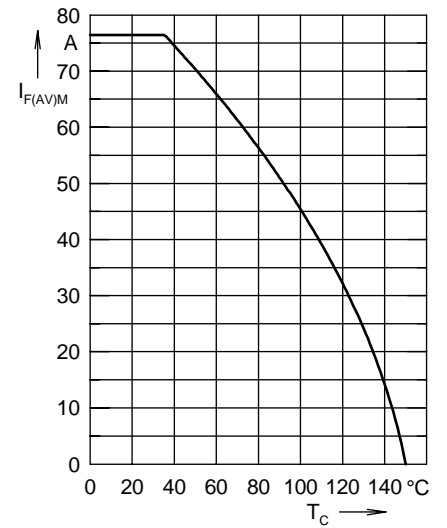


Fig. 5 Max. forward current versus case temperature, sine 180°

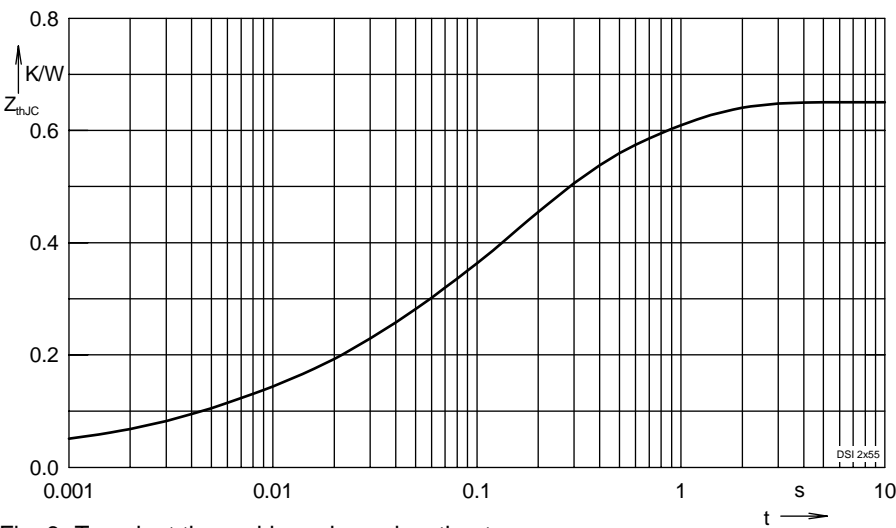


Fig. 6 Transient thermal impedance junction to case

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



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