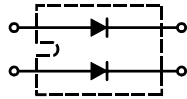
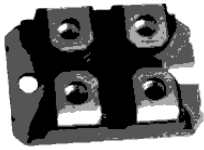
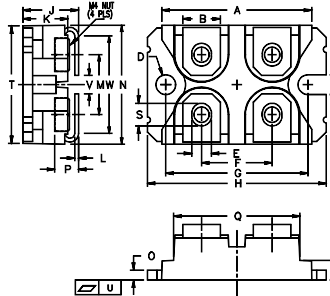


# MBR2\*120

## Wide Temperature Range and High $T_{jm}$ Schottky Barrier Rectifiers



Dimensions SOT-227(ISOTOP)



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

	$V_{RSM}$	$V_{RRM}$
	V	V
<b>MBR2*120-30</b>	30	30
<b>MBR2*120-40</b>	40	40
<b>MBR2*120-45</b>	45	45

Symbol	Test Conditions	Maximum Ratings	Unit
$I_{FRMS}$		150	
$I_{FAVM}$	$T_C=100^\circ\text{C}$ ; rectangular, $d=0.5$	120	A
$I_{FAVM}$	$T_C=100^\circ\text{C}$ ; rectangular, $d=0.5$ ; per device	240	
$I_{FSM}$	$T_{VJ}=45^\circ\text{C}$ ; $t_p=10\text{ms}$ (50Hz), sine	1800	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/us
$T_{VJ}$		-40...+150	$^\circ\text{C}$
$T_{VJM}$		150	
$T_{stg}$		-40...+150	
$P_{tot}$	$T_C=25^\circ\text{C}$	310	W
$V_{ISOL}$	50/60Hz, RMS; $I_{ISOL} \leq 1\text{mA}$	2500	V~
$M_d$	mounting torque (M4); terminal connection torque (M4)	1.1-1.5/9-13	Nm/lb.in.
<b>Weight</b>	typical	30	g

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
$I_R$	$T_{VJ}=25^\circ\text{C}$ ; $V_R=V_{RRM}$ $T_{VJ}=100^\circ\text{C}$ ; $V_R=V_{RRM}$		120 500	mA
$V_F$	$I_F=120\text{A}$ ; $T_{VJ}=125^\circ\text{C}$ $I_F=120\text{A}$ ; $T_{VJ}=25^\circ\text{C}$ $I_F=240\text{A}$ ; $T_{VJ}=125^\circ\text{C}$		0.59 0.62 0.97	V
$R_{thJC}$ $R_{thCH}$		0.1	0.4	K/W

### FEATURES

- \* International standard package miniBLOC
- \* Isolation voltage 2500 V~
- \* 2 independent Schottky diodes in 1 package
- \* 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

# MBR2\*120

## Wide Temperature Range and High $T_{jm}$ Schottky Barrier Rectifiers

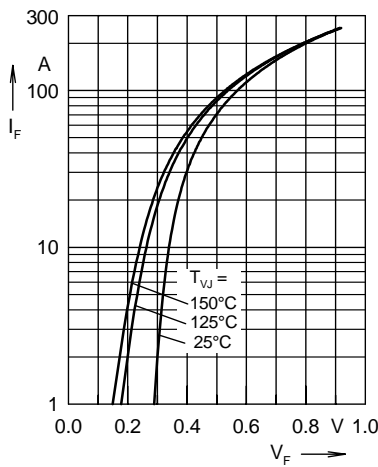


Fig. 1 Maximum forward voltage drop characteristics

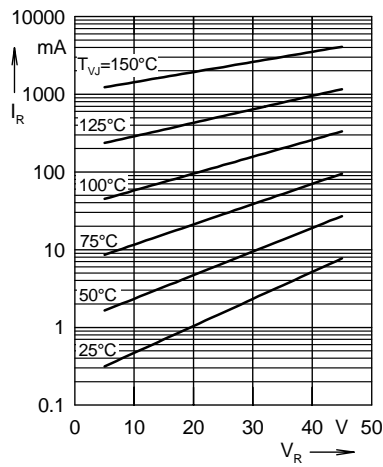


Fig. 2 Typ. value of reverse current  $I_R$  versus reverse voltage  $V_R$

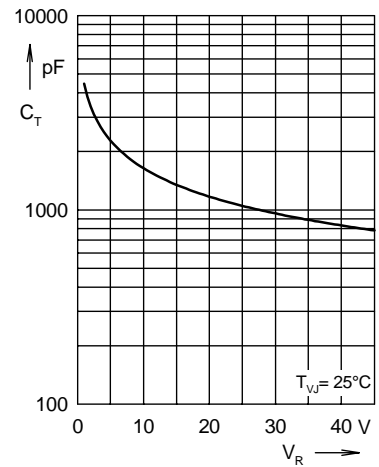


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

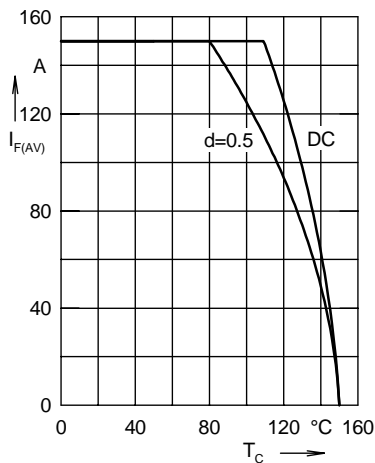


Fig. 4 Average forward current  $I_{F(AV)}$  versus case temperature  $T_C$

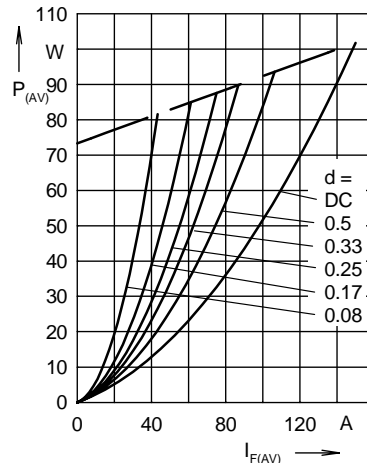


Fig. 5 Forward power loss characteristics

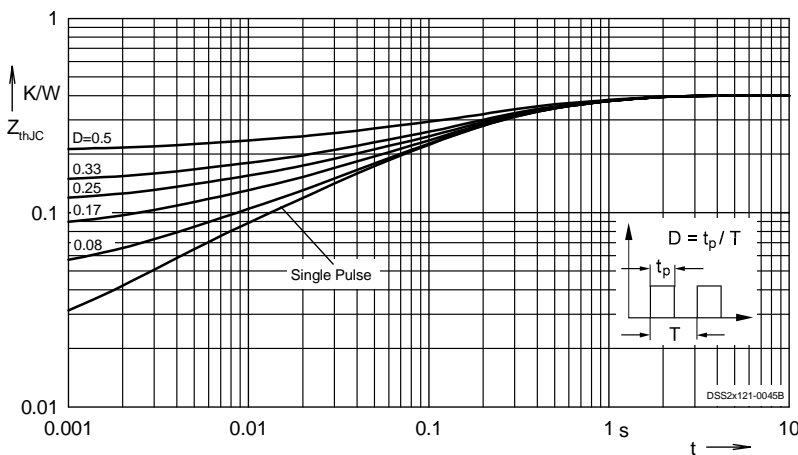


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode