



Micro Commercial Components  
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**MD120K08D1**  
**MD120K12D1**  
**MD120K16D1**  
**MD120K18D1**

## Features

- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Blocking Voltage: 800 to 1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip

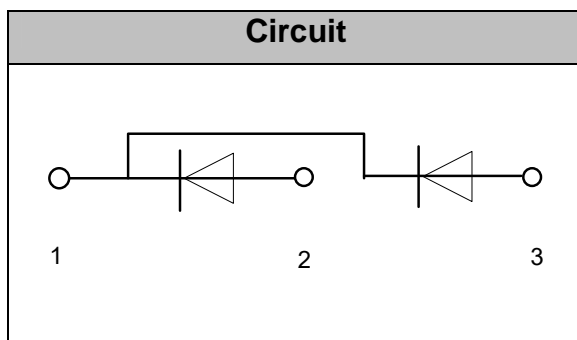
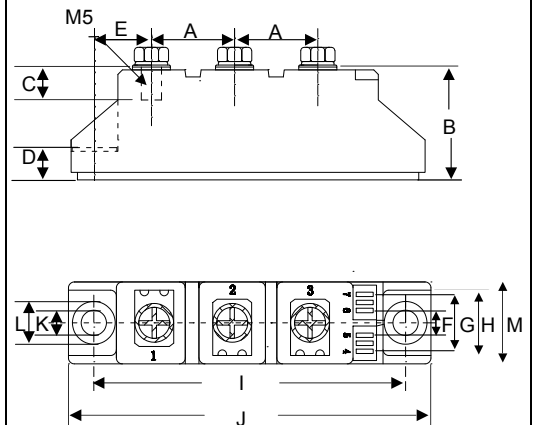
## Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors



**120 Amp**  
**GLASS PASSIVATED**  
**RECTIFIER DIODE**  
**MODULES**  
**800~1800 Volts**

D1



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.776	.799	19.70	20.30	
B	1.169	1.193	29.70	30.30	
C	.343	.366	8.70	9.30	
D	.323	.346	8.20	8.80	
E	.602	.622	15.30	15.80	
F	.224	.248	5.70	6.30	
G	.539	.563	13.70	14.30	
H	.657	.681	16.70	17.30	
I	3.138	3.161	79.70	80.30	
J	3.650	3.673	92.70	93.30	
K		.256		6.50	∅
L	.421	.445	10.70	11.30	
M	.815	.839	20.70	21.30	

### Module Type

TYPE	VRRM	VRSM
MD120K08D1	800V	900V
MD120K12D1	1200V	1300V
MD120K16D1	1600V	1700V
MD120K18D1	1800V	1900V

### Maximum Ratings

Symbol	Conditions	Values	Units
IFAV	Single phase ,half wave 180° conduction Tc=106°C	120	A
IFSM	t=10mS Tvj =45°C	2800	A
i <sup>2</sup> t	t=10mS Tvj =45°C	39200	A <sup>2</sup> s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +150	°C
Tstg		-40 to +125	°C
Mt	T terminals(M5)	3±15%	Nm
Ms	T heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	100	g

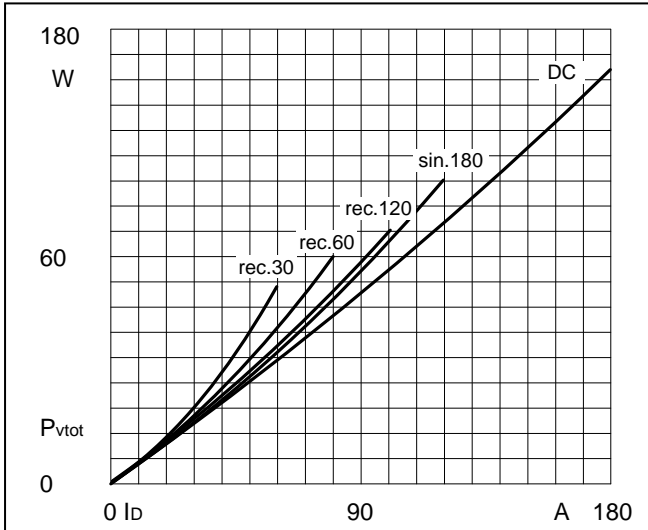
### Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	0.26	°C/W
Rth(c-s)	Module	0.1	°C/W

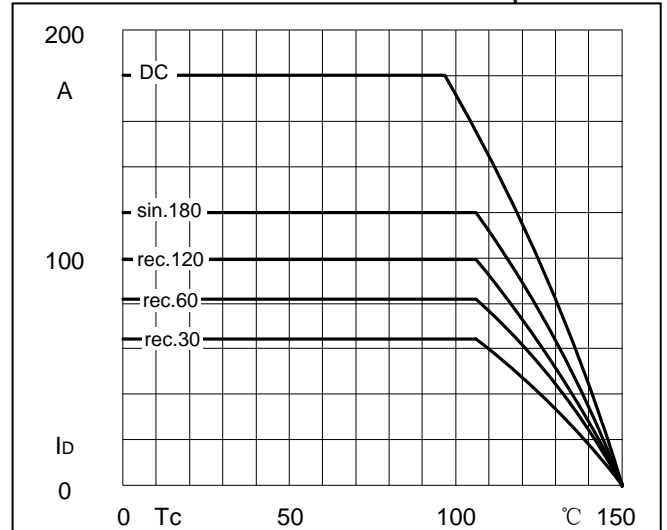
### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
VFM	T=25°C IF =300A	—	1.20	1.35	V
IRD	Tvj=150°C VRD=VRRM	—	—	6	m

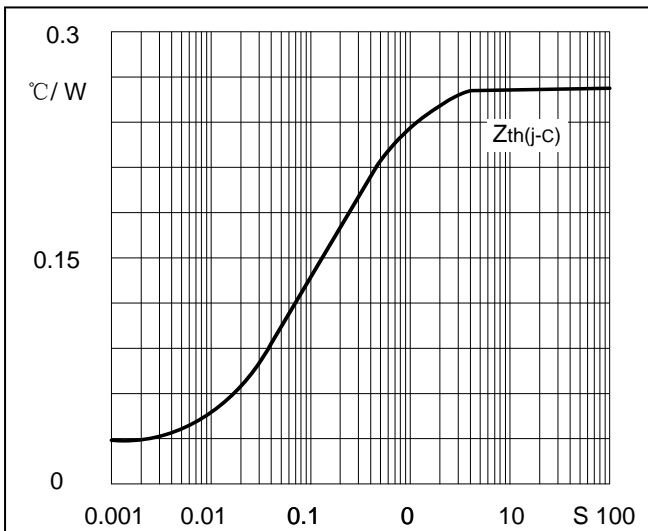
**Performance Curves**



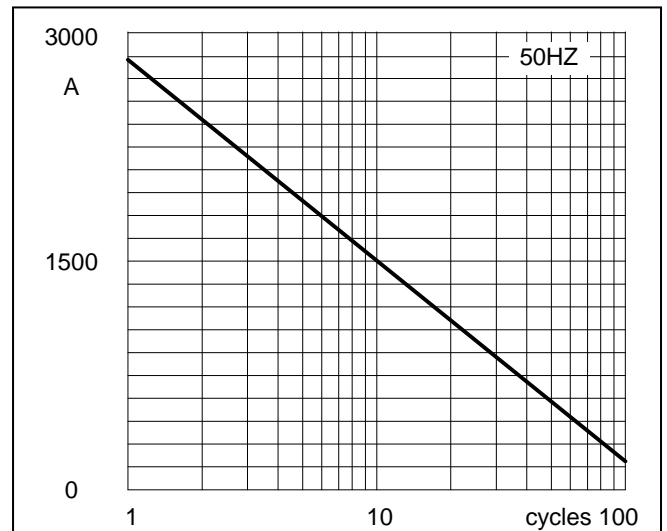
**Fig1. Power dissipation**



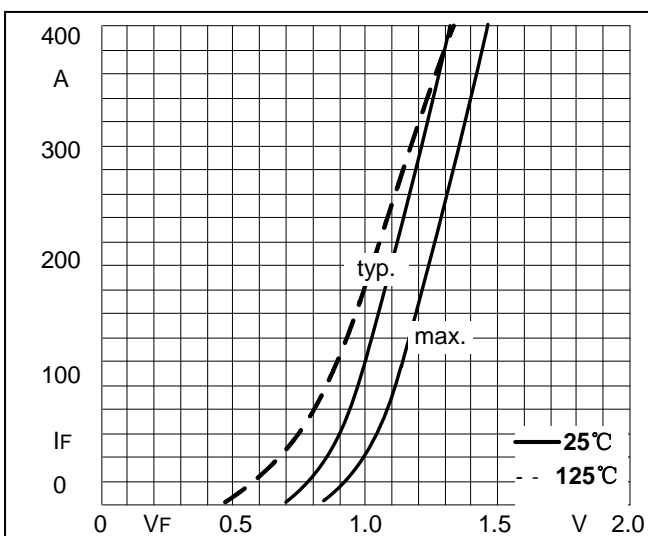
**Fig2. Forward Current Derating Curve**



**Fig3. Transient thermal impedance**



**Fig4. Max Non-Repetitive Forward Surge Current**



**Fig5. Forward Characteristics**



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## Ordering Information :

Device	Packing
Part Number-BP	Bulk: 10PCS/BOX ;100PCS/CTN

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