



Micro Commercial Components  
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**MD165K08D2**  
**MD165K12D2**  
**MD165K16D2**  
**MD165K18D2**

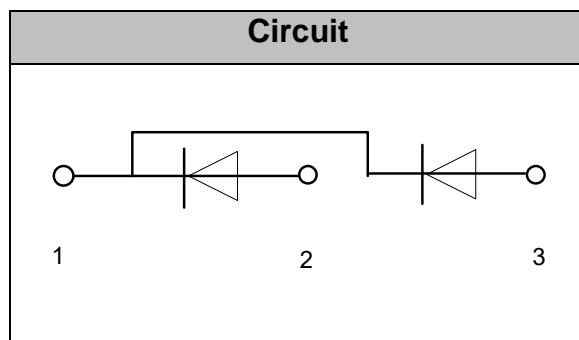
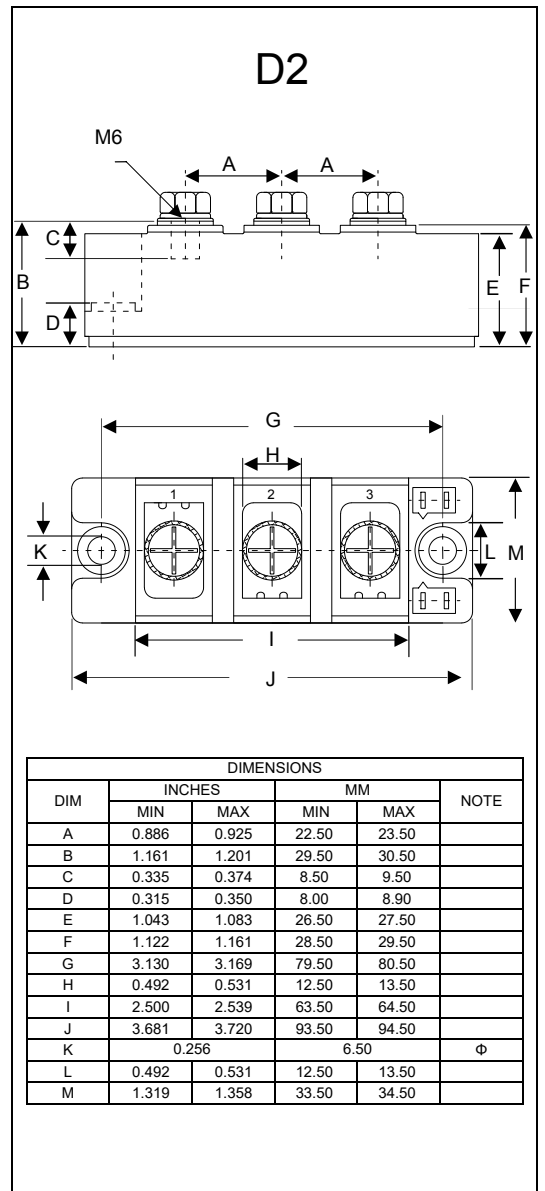
## Features

- 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

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



### Module Type

TYPE	VRRM	VRSM
MD165K08D2	800V	900V
MD165K12D2	1200V	1300V
MD165K16D2	1600V	1700V
MD165K18D2	1800V	1900V

### Maximum Ratings

Symbol	Conditions	Values	Units
IFAV	Single phase ,half wave 180° conduction Tc=101°C	165	A
IFSM	t=10mS Tvj =45°C	6000	A
i <sup>2</sup> t	t=10mS Tvj =45°C	180000	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	To terminals(M6)	5±15%	Nm
Ms	To heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	160	g

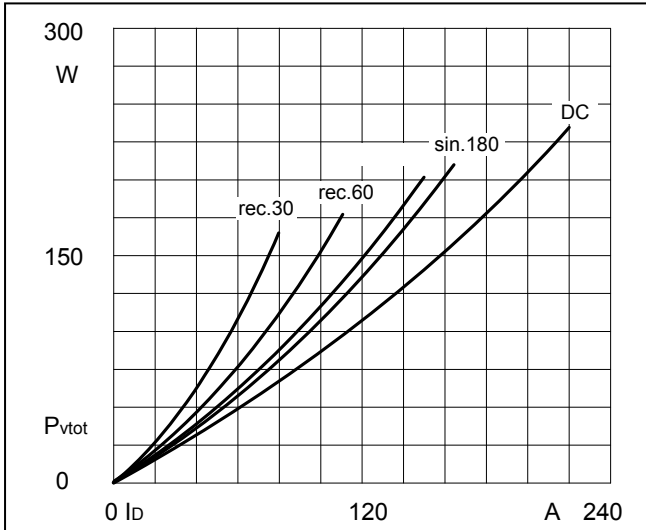
### Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	0.21	°C/W
Rth(c-s)	Module	0.05	°C/W

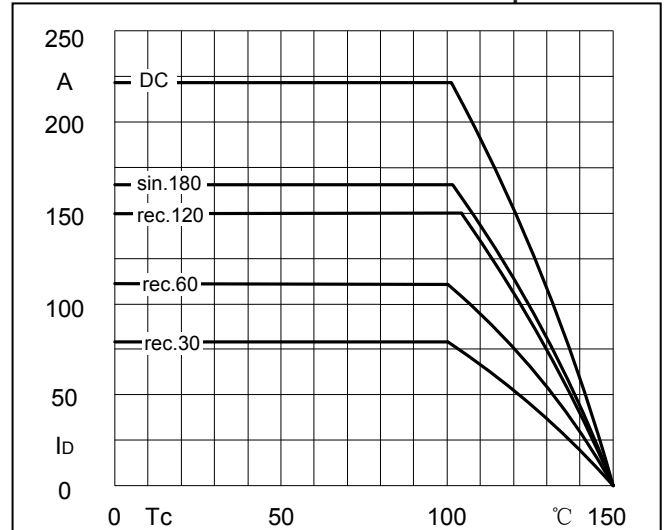
### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
VFM	T=25°C IF =300A	—	1.20	1.40	V
IRD	Tvj=150°C VRD=VRRM	—	—	9	mA
r <sub>f</sub>	Tj=25°C		1.25		mΩ
V <sub>f0</sub>			0.82		V

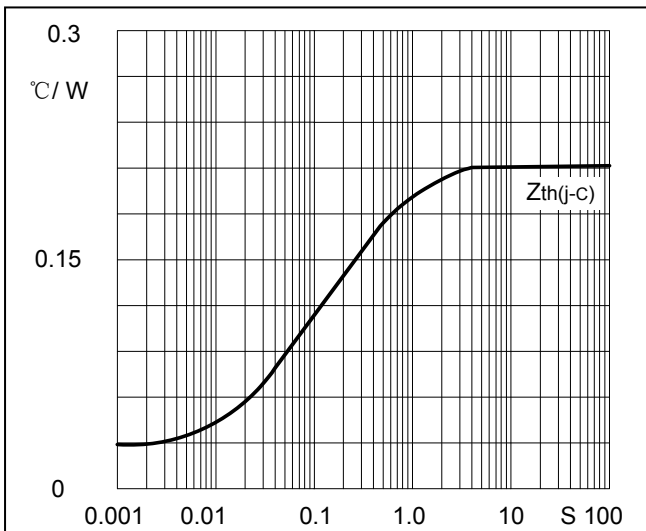
**Performance Curves**



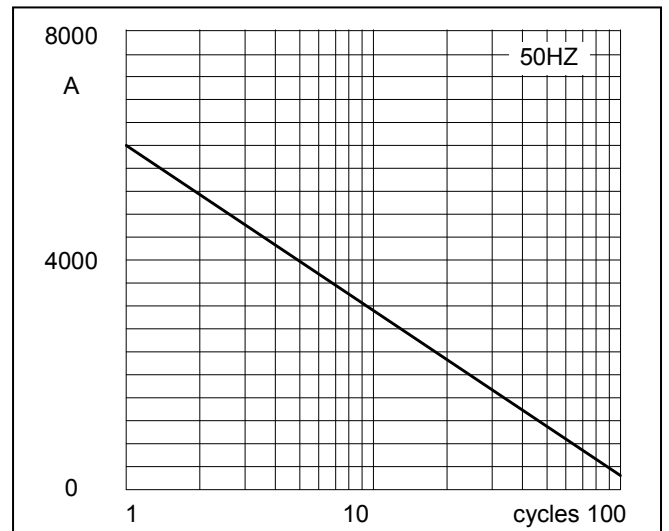
**Fig1. Power dissipation**



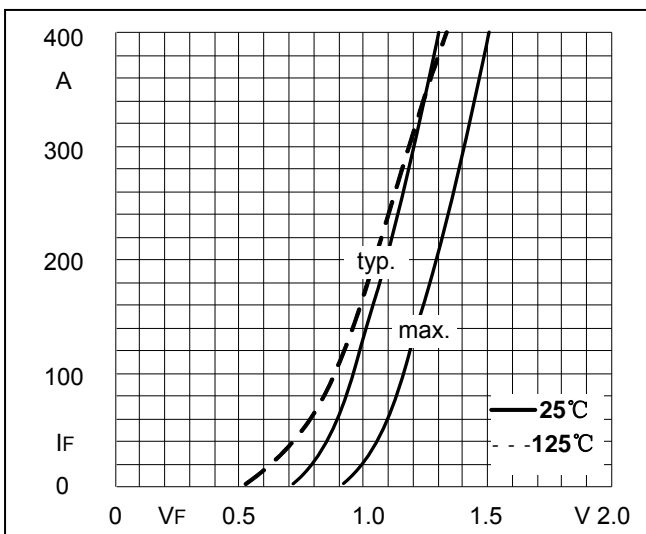
**Fig2. Forward Current Derating Curve**



**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: 8PCS/BOX ;80PCS/CTN

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