



Micro Commercial Components



Micro Commercial Components  
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**MD160S08M5**  
**MD160S12M5**  
**MD160S16M5**  
**MD160S18M5**

## Features

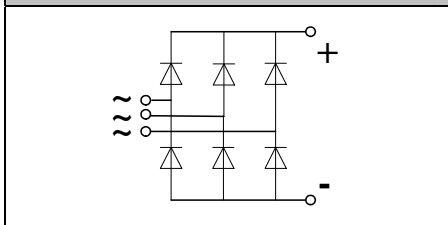
- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Blocking Voltage: 800 to 1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip

## Applications

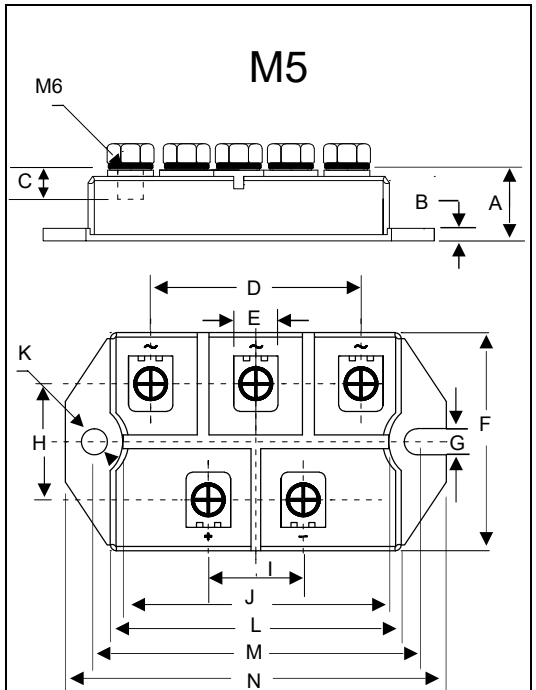
- Three phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Battery charger rectifiers



Circuit



**160 Amp**  
**GLASS PASSIVATED**  
**THREE PHASE**  
**RECTIFIER BRIDGE**  
**800~1800 Volts**



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.657	.681	16.70	17.30	
B	.106	.130	2.70	3.30	
C	.264	.287	6.70	7.30	
D	2.04	2.06	51.70	52.30	
E	.461	.484	11.70	12.30	
F	2.11	2.14	53.70	54.30	
G	.244	.268	6.20	6.80	
H	1.05	1.07	26.70	27.30	
I	.972	.996	24.70	25.30	
J	2.59	2.61	65.70	66.30	
K		.256		6.50	∅
L	2.82	2.85	71.70	72.30	
M	3.14	3.16	79.70	80.30	
N	3.69	3.71	93.70	94.30	

### Module Type

TYPE	VRRM	VRSM
MD160S08M5	800V	900V
MD160S12M5	1200V	1300V
MD160S16M5	1600V	1700V
MD160S18M5	1800V	1900V

### Maximum Ratings

Symbol	Conditions	Values	Units
I <sub>D</sub>	Three phase, full wave T <sub>c</sub> =100°C	160	A
I <sub>FSM</sub>	t=10mS T <sub>vj</sub> =45°C	1800	A
i <sup>2</sup> t	t=10mS T <sub>vj</sub> =45°C	16200	A <sup>2</sup> s
V <sub>isol</sub>	a.c.50HZ;r.m.s.;1min	3000	V
T <sub>vj</sub>		-40 to +150	°C
T <sub>stg</sub>		-40 to +125	°C
M <sub>t</sub>	To terminals(M6)	5±15%	Nm
M <sub>s</sub>	To heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	194	g

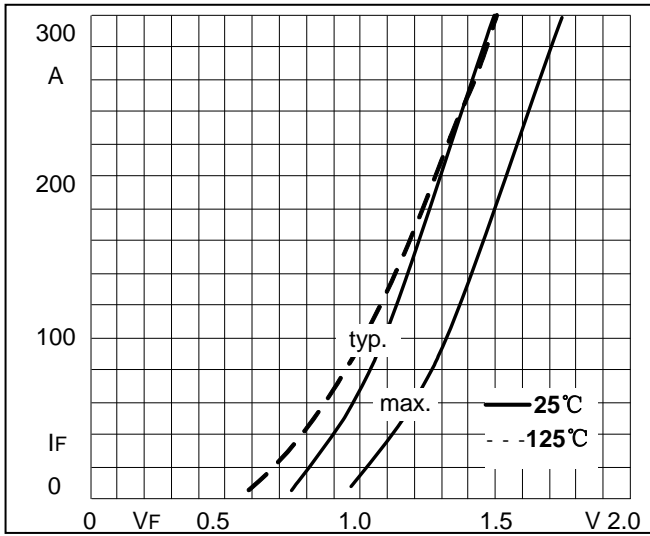
### Thermal Characteristics

Symbol	Conditions	Values	Units
R <sub>th(j-c)</sub>	Per diode	0.65	°C/W
R <sub>th(c-s)</sub>	Module	0.03	°C/W

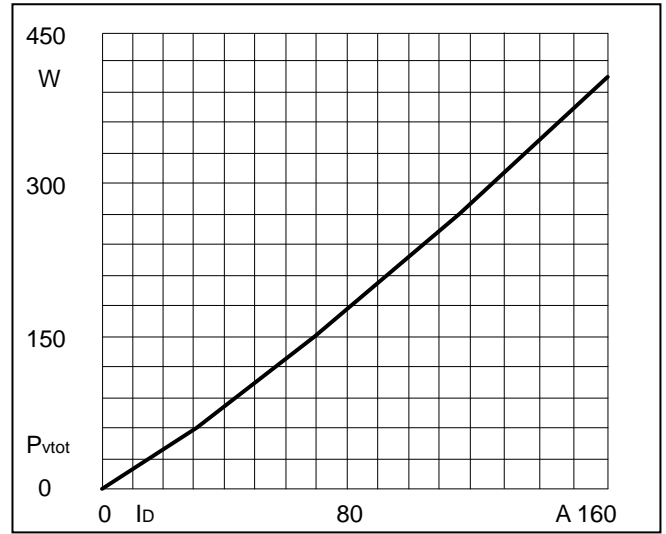
### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V <sub>FM</sub>	T=25°C I <sub>F</sub> =300A	—	1.50	1.75	V
I <sub>RD</sub>	T <sub>vj</sub> =25°C V <sub>RD</sub> =V <sub>RRM</sub> T <sub>vj</sub> =150°C V <sub>RD</sub> =V <sub>RRM</sub>	—	—	0.5 6	mA mA

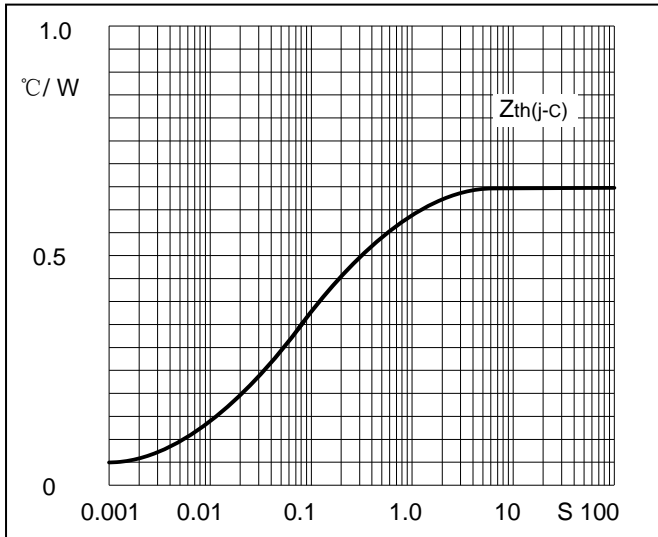
**Performance Curves**



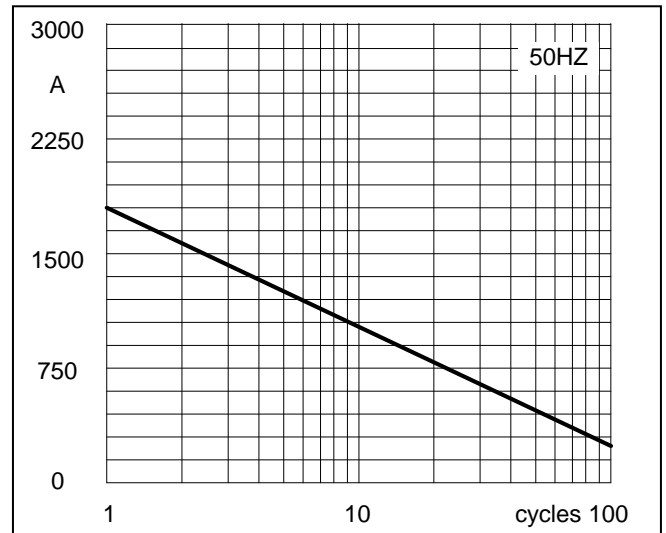
**Fig1. Forward Characteristics**



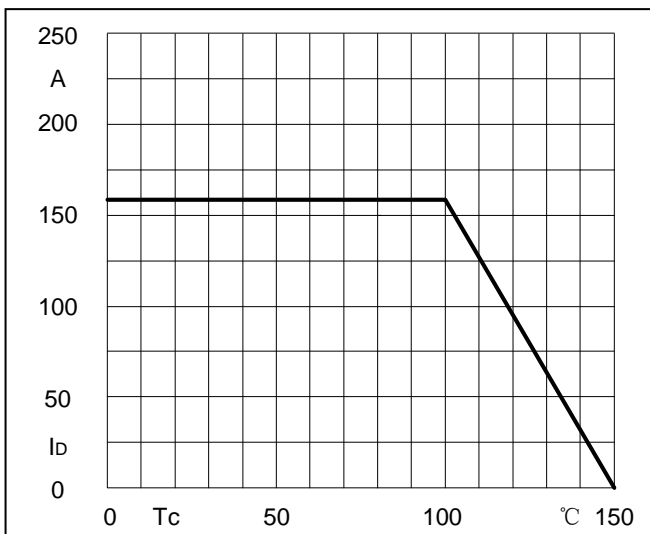
**Fig2. Power dissipation**



**Fig3. Transient thermal impedance**



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



**Fig5. Forward Current Derating Curve**



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Ordering Information :

Device	Packing
Part Number-BP	Bulk: 6PCS/BOX ;60PCS/CTN

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