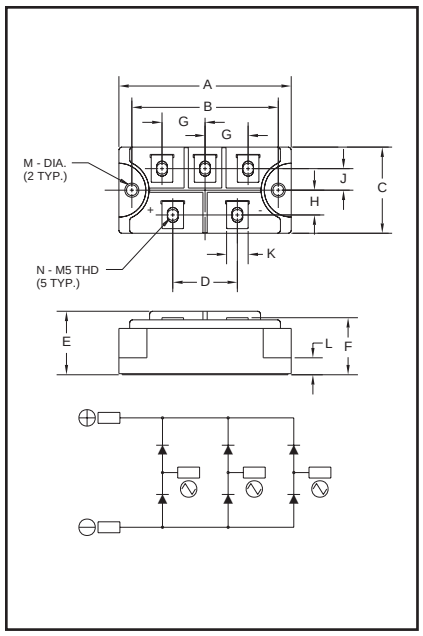
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

Three-Phase Diode Bridge Modules

100 Amperes/800 Volts



Outline Drawing

Dimension	Inches	Millimeters
A	3.15	80
B	2.677±0.010	68±0.25
C	1.57	40
D	1.18	30
E	1.16	29.5
F	1.04	26.5
G	0.79	20
H	0.45	11.5
J	0.41	10.5
K	0.39	10
L	0.31	8
M	0.216 Dia.	Dia. 5.5
N	M5 Metric	M5

ME500810
Three-Phase Diode Bridge Modules
100 Amperes/800 Volts

Description:
Powerex Three-Phase Diode Bridge Modules are designed for use in three-phase bridge application. The modules are isolated consisting of six rectifier diodes.

Features:

- ☐ Isolated Mounting
- ☐ Planar Chips

Applications:

- ☐ Inverters
- ☐ DC Power Supplies
- ☐ AC Motor Control Front End

Ordering Information:
Select the complete eight digit module part number you desire from the table below.
Example: ME500810 is an 800 Volt, 100 Ampere Three-Phase Diode Bridge Module.

Type	Voltage Volts (x100)	Current Rating Amperes (x10)
ME50	08	10

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ME500810
Three-Phase Diode Bridge Modules
100 Amperes/800 Volts

Absolute Maximum Ratings

Characteristics	Symbol	ME500810	Units
Peak Reverse Blocking Voltage	V_{RRM}	800	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), t < 5ms	V_{RSM}	960	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	640	Volts
DC Output Current, T_C = 102°C	I_O	100	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{FSM}	1000	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	I_{FSM}	910	Amperes
I^2t (for Fusing), 8.3 milliseconds	I^2t	4200	A^2sec
Storage Temperature	T_{STG}	-40 to 125	°C
Operating Temperature	T_j	-40 to 150	°C
Maximum Mounting Torque M6 Mounting Screw	—	26	in.-lb.
Maximum Mounting Torque M5 Terminal Screw	—	17	in.-lb.
Module Weight (Typical)	—	220	Grams
V Isolation	V_{RMS}	2500	Volts

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ME500810
Three-Phase Diode Bridge Modules
100 Amperes/800 Volts

Electrical and Thermal Characteristics, T_j = 25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	ME500810	Units
Blocking State Maximums				
Reverse Leakage Current, Peak	I_{RRM}	T_j = 150°C, V_{RRM} = Rated	10	mA
Conducting State Maximums				
Peak On-State Voltage	V_{FM}	I_{FM} = 100A	1.2	Volts
Thermal Maximums				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.2	°C/Watt
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.06	°C/Watt

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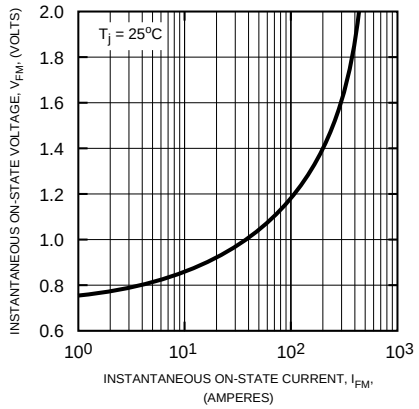
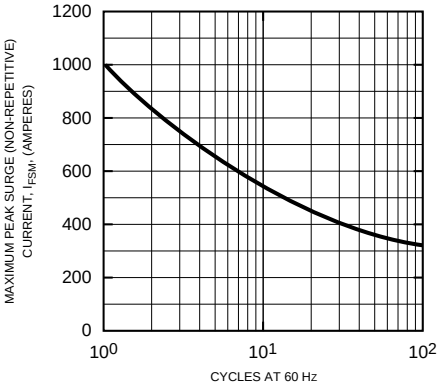
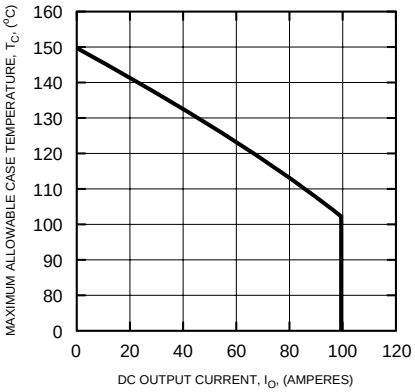
MAXIMUM ON-STATE CHARACTERISTICS



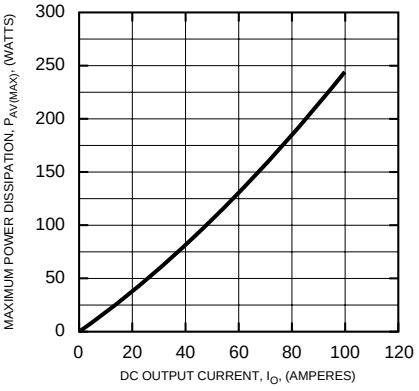
MAXIMUM ALLOWABLE PEAK SURGE (NON-REPETITIVE) CURRENT



MAXIMUM ALLOWABLE CASE TEMPERATURE



MAXIMUM ON-STATE POWER DISSIPATION



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)