

THREE PHASE BRIDGE

3-Phase Rectifier Series

Features

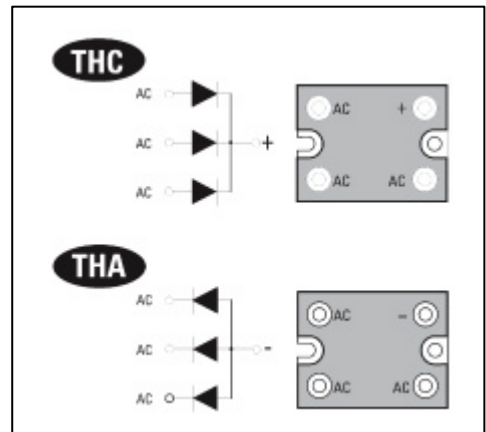
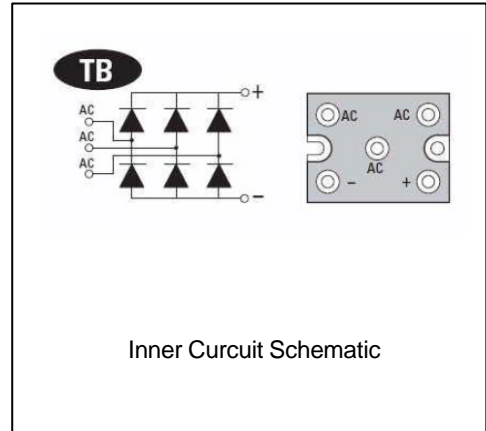
- | Low V_F
- | Direct Mounting to heatsink
- | Low profile package
- | Glass Passivation Chip
- | Easy Connection
- | Insulated Type

Typical Applications

- | Inverters
- | Welding
- | UPS
- | SMPS
- | Battery Chargers
- | DC Motors
- | General Purpose DC Power Supplies

Major Ratings and Characteristics

Parameters	M50-100-XX-XX	Units
I_o	100	A
@ T_c	85	°C
I_{FSM} @ 50Hz	1500	A
@ 60Hz	1450	A
$I^2 t$ @ 50Hz	1140	A ² s
@ 60Hz	1050	A ² s
V_{DRM}/V_{RRM}	400 to 2000	V
T_J range	- 40 to 150	°C



M50-100-XX-06 to 16 SERIES

ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM} / V_{DRM} , maximum repetitive peak reverse voltage V	V_{RSM} , maximum non-repetitive peak rev. voltage V	$I_{RRM} / I_{DRM} \max$ @ $T_J = T_J \max$ mA
M50-100..	06	600	700	5
	08	800	900	
	12	1200	1300	
	14	1400	1500	
	16	1600	1700	

Forward Conduction

Parameter	M50-100-XX -04-16	Units	Conditions		
I_O Maximum DC output current @ Case temperature	100	A	120° Rect conduction angle		
	80	°C			
I_{FSM} Maximum peak, one-cycle forward, non-repetitive on state surge current	1500	A	t = 10ms	No voltage	Initial $T_J = T_J \max.$
	1450		t = 8.3ms	reapplied	
	1300		t = 10ms	100% V_{RRM}	
	1220		t = 8.3ms	reapplied	
$I^2 t$ Maximum $I^2 t$ for fusing	1140	A ² s	t = 10ms	No voltage	
	1050		t = 8.3ms	reapplied	
	700		t = 10ms	100% V_{RRM}	
	650		t = 8.3ms	reapplied	
$I^2 V t$ Maximum $I^2 V t$ for fusing	114000	A ² V s	t = 0.1 to 10ms, no voltage reapplied		
V_{FM} Maximum forward voltage drop	1.20	V	pk = 100A, $T_J = 25^\circ\text{C}$, t p = 400 μs single junction		

Insulation Table

Parameter	M50-100-TB -600..	Units	Conditions
V_{INS} RMS insulation voltage	2500	V	T = 25 °C all terminal shorted f = 50Hz, t = 1s

M50-100-XX-04 to 16 SERIES

Thermal and Mechanical Specifications

Parameter	M50-100-TB -600.	Units	Conditions
T _J Maximum junction operating temperature range	- 40 to 150	°C	
T _{stg} Maximum storage temperature range	- 40 to 125	°C	
R _{thJC} Maximum thermal resistance, junction to case	0.3	KW	DC operation per module
	1.80		DC operation per junction
	0.35		120° Rect conduction angle per module
	2.20		120° Rect conduction angle per junction
R _{thJC} Maximum I ² V t for fusing	0.04	KW	Per module. Mounting surface smooth, flat and greased. Heatsink compound thermal conductivity = 0.42W/mK
T Mounting torque ± 10% to heatsink	4	Nm	A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound.Lubricated threads.
wt Approximate weight	196	g	

Part Number Identification

Series Type	Current	Circuit Type	Voltage
M50	100 (100Amps)	See Schematic diagram TB, THA, THC	06 (600v) 14 (1400V) 08 (800V) 16 (1600V) 12 (1200V)

