WDMF75M16

Three Phase Rectifier Bridge

Rev.01 - 10 December 2018 Objective data sheet

1. General description

Three phase Rectifier Bridge in a WMM01 package.

2. Features and benefits

- Three phase rectifiers
- Heat transfer through aluminum oxide DBC, ceramic isolated metal baseplate
- High voltage capability
- High inrush current capability
- Planar process
- High operating temperature capability ($T_{j\ (max)}$ = 150°C)

3. Applications

- Three phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Battery charger rectifiers
- Input rectifiers for variable frequency drives

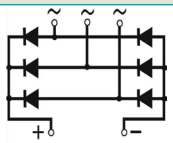
4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Values				Unit
Absolute maximum rating							
V_{RRM}	repetitive peak reverse voltage		1600				V
$I_{D(AV)}$	average output current	δ = 0.5 ; square-wave pulse	75				A
I_{FSM}	non-repetitive peak forward current	t_p = 10 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse	750				A
		t_p = 8.3 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse	900				A
Symbol	**Parameter**	**Conditions**		**Min**	**Typ**	**Max**	**Unit**
Static characteristics							
V_F	forward voltage	I_F = 75 A; T_j = 25 °C		-	-	1.6	V

5. Pinning information

Table 2. Pinning information

Simplified outline	Graphic symbol
	

6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
WDMF75M16	WMM01	Three phase Rectifier Bridge	WMM01

7. Marking

Table 4. Marking codes

Type number	Marking codes
WDMF75M16	WDMF75M16

8. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions	Values	Unit
V_{RRM}	repetitive peak reverse voltage		1600	V
V_{RWM}	crest working reverse voltage		1600	V
V_R	reverse voltage	DC	1600	V
$I_{D(AV)}$	average output current	δ = 0.5 ; square-wave pulse	75	A
I_{FSM}	non-repetitive peak forward current	t_p = 10 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse	750	A
		t_p = 8.3 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse	900	A
I^2t	I^2t for fusing	t_p = 10 ms; sine-wave pulse	2812	A^2s
V_{isol}	isolation breakdown voltage	AC 50Hz; 1 minute	3000	V
T_{stg}	storage temperature		-40 to 150	°C
T_j	junction temperature		150	°C
Mounting Torque	to terminal (M5)		3 +/- 15%	Nm
	to heatsink (M5)		5 +/- 15%	Nm
Weight	approximate weight	Module	145	g

9. Thermal characteristics

Table 6. Thermal characteristics

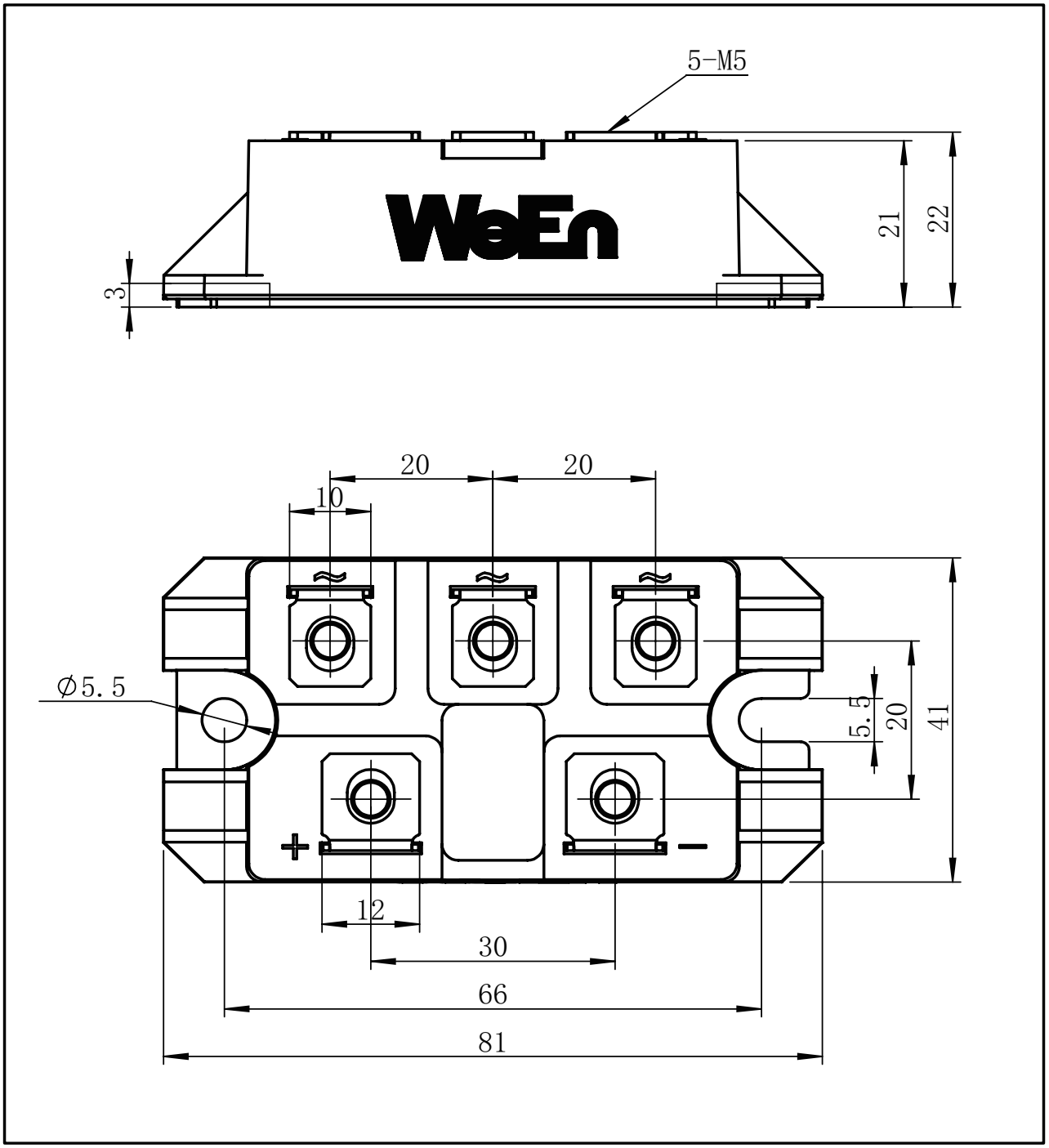
Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$R_{th(j-c)}$	thermal resistance from junction to case	per module		-	-	0.2	K/W

10. Characteristics

Table 7. Characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
Static characteristics							
V_F	forward current	I_F = 75 A; T_j = 25 °C		-	-	1.6	V
		I_F = 75 A; T_j = 150 °C		-	-	1.5	V
I_R	reverse current	V_R = 1600 V; T_j = 25 °C		-	-	100	µA
		V_R = 1600 V; T_j = 150 °C		-	-	5	mA

11. Package outline



12. Legal information

Data sheet status

Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

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[2] The term 'short data sheet' is explained in section "Definitions".
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