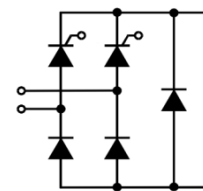


## Single Phase Half Controlled Bridge Rectifier, 45 Amps

### Features

- Easy connections, screw type terminals
- Good surge current capability
- Low forward voltage drop
- Easy mounting



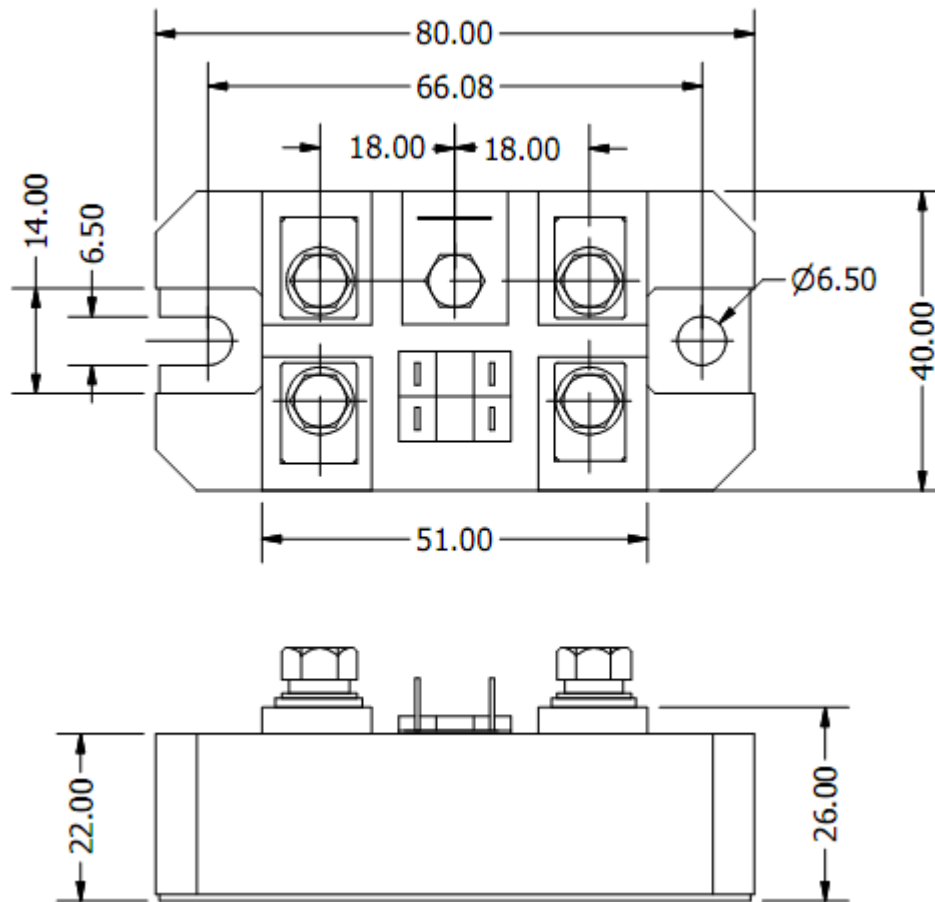
Voltage Ratings ( $T_J = 25^\circ\text{C}$ unless otherwise noted)				
Type number	Voltage code	$V_{RRM}$ , Max. repetitive peak reverse voltage (V)	$V_{RSM}$ , Max. non-repetitive peak reverse voltage (V)	$I_{RRM}$ max @ $T_J$ max (mA)
NHQ45	80	800	900	5.0
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	1600	1700	



Electrical Specifications ( $T_J = 25^\circ\text{C}$ unless otherwise noted)				
Parameters	Conditions	Symbol	Values	Units
Maximum on-state average current	$T_C = 85^\circ\text{C}$	$I_{dAVM}$	45	A
Forward surge current (non-repetitive), one cycle	$f = 50\text{Hz}, T_{VJ} = T_{VJM}, V_R = 0$	$I_{FSM}, I_{TSM}$	470	A
Maximum forward voltage drop	$I_T = 45\text{A}, T_{VJ} = 25^\circ\text{C}$	$V_{TM}$	1.35	V
Current required for fusing	$f = 50\text{Hz}, T_{VJ} = T_{VJM}, V_R = 0$	$I^2t$	1100	$\text{A}^2\text{s}$
Maximum rate of rise of on-state current	$T_{VJ} = T_{VJM}, f = 50\text{Hz}, I_T = I_{TAVM}$	$di/dt$	500	$\text{A}/\mu\text{s}$
Critical rate of rise of off-state voltage	$T_{VJ} = T_{VJM}, V_{DR} = 2/3 V_{DRM}$	$dv/dt$	1000	$\text{V}/\mu\text{s}$
Gate voltage to trigger	$V_D = 6\text{V}, T_{VJ} = 25^\circ\text{C}$	$V_{GT}$	1.0	V
Gate current to trigger	$V_D = 6\text{V}, T_{VJ} = 25^\circ\text{C}$	$I_{GT}$	100	mA
Holding current	$T_{VJ} = 25^\circ\text{C}, V_D = 6\text{V}$	$I_H$	150	mA
Latching current	$T_{VJ} = 25^\circ\text{C}$	$I_L$	200	mA
RMS isolation voltage	$f = 50\text{Hz}$	$V_{ISO}$	3000	V

Thermal and Mechanical Specifications ( $T_J = 25^\circ\text{C}$ unless otherwise noted)			
Parameters	Symbol	Values	Units
Operating junction temperature range	$T_{VJ}$	- 40 to + 125	$^\circ\text{C}$
Maximum junction temperature	$T_{VJM}$	125	$^\circ\text{C}$
Maximum storage temperature range	$T_{STG}$	- 40 to + 125	$^\circ\text{C}$
Maximum thermal resistance, junction to case	$R_{th(J-C)}$	0.25	$^\circ\text{C}/\text{W}$
Mounting torque $\pm 10\%$	to heatsink	3.5	Nm
	to terminal	3.5	
Approximate weight	W	170	g

## Package Outline



ALL DIMENSIONS IN MM

## Ordering Table

NHQ	45	/	160
1	2		3

- 1 – Single-phase half- controlled bridge
- 2 – Current rating =  $I_{dAVM}$
- 3 – Voltage Code x 10 =  $V_{RRM}$  (See Voltage Ratings Table)