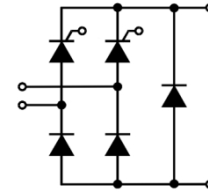


Single Phase Half Controlled Bridge Rectifier, 45A

Features

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

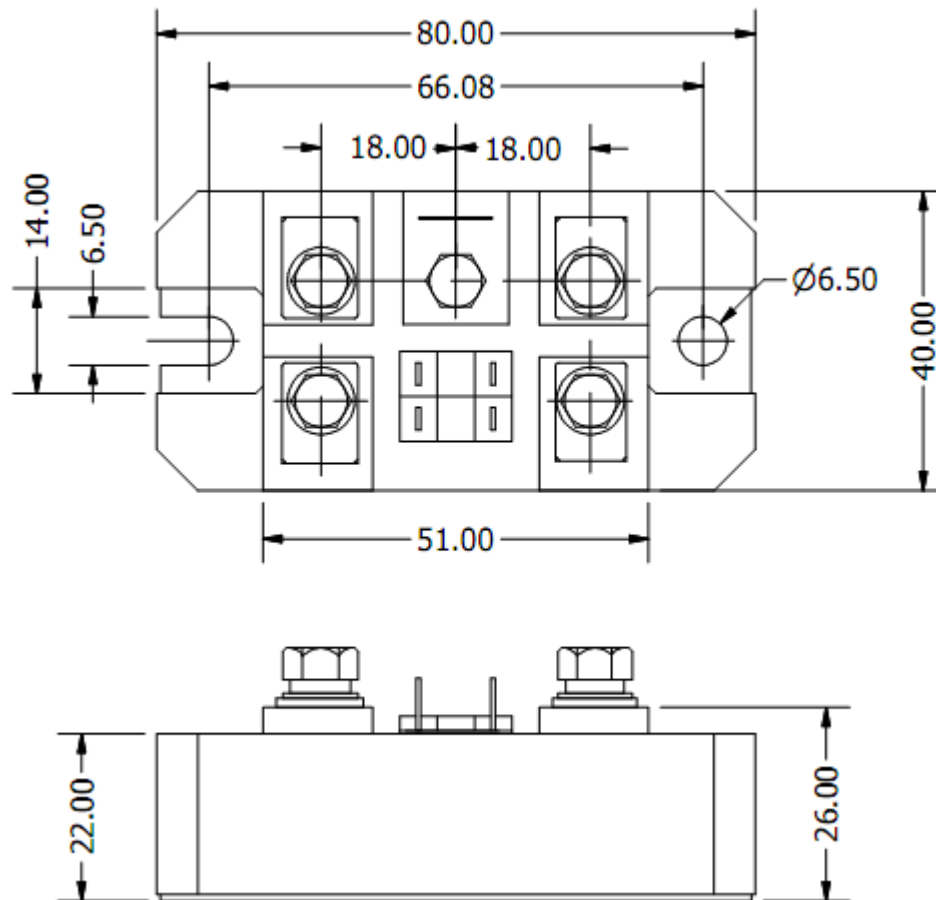


Voltage Ratings ($T_J = 25^\circ\text{C}$ unless otherwise noted)				
Type number	Voltage code	V_{RRM} , Max. repetitive peak reverse voltage (V)	V_{RSM} , Max. non-repetitive peak reverse voltage (V)	I_{RRM} max @ T_J max (mA)
NHQ45A	80	800	900	5.0
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	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	A^2s
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	$f = 50\text{Hz}, t = 1\text{ms}$	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	A	160
1	2	3	4

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