

## Thyristor-Diode Module, 143 Amps

### Features

- Improved glass passivation for high reliability
- Exceptional stability at high temperatures
- High di/dt and dv/dt capabilities
- Low thermal resistance



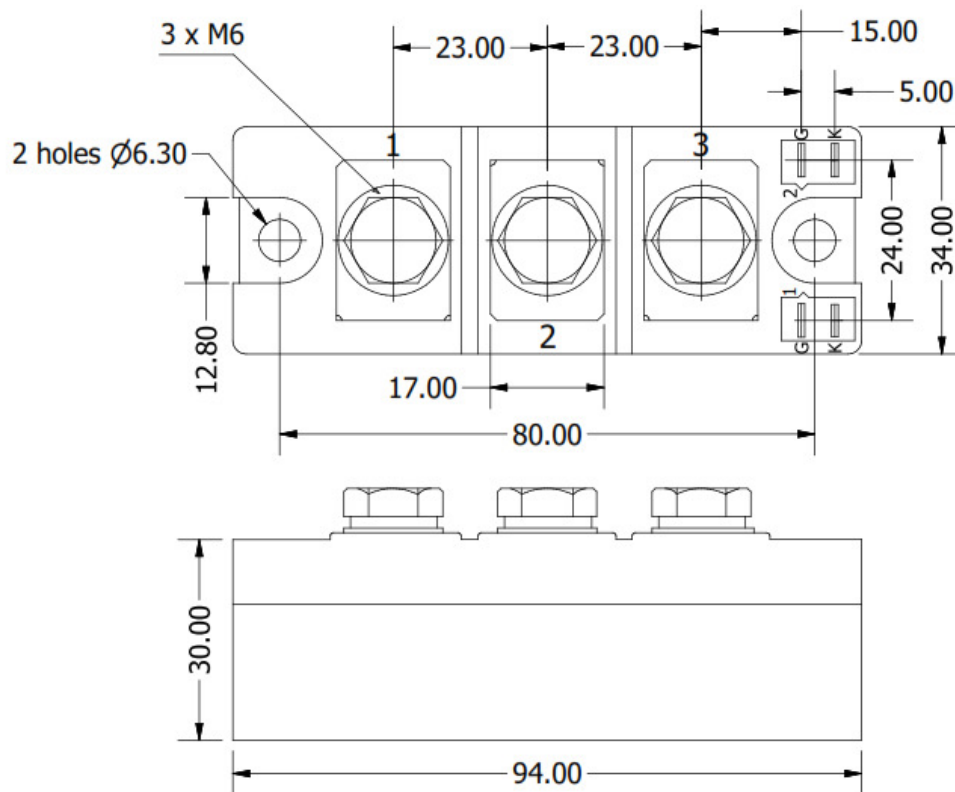
Voltage Ratings ( $T_A = 25^\circ\text{C}$ , unless otherwise noted)					
Type number	Voltage Code	$V_{RRM}$ , Maximum repetitive peak reverse voltage (V)	$V_{RSM}$ , Maximum non-repetitive peak reverse voltage (V)	$V_{DRM}$ , Maximum repetitive peak off-state voltage (V)	$I_{RRM}$ , Maximum reverse leakage current @ $T_{JMAX}$ (mA)
NTD162 H	200	2000	2100	2000	max. 30
	220	2200	2300	2200	

Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)			
Parameter	Symbol	Values	Units
Maximum average forward current @ $T_J = 85^\circ\text{C}$	$I_{T(AV)}$	143	A
Maximum average RMS forward current	$I_{T(RMS)}$	225	A
Maximum non-repetitive surge current	$I_{TSM}$	5200	A
Maximum $I^2t$ for fusing	$I^2t$	135200	$\text{A}^2\text{s}$
Forward voltage drop	$V_{TM}$	max. 1.6	V
Critical rate of rise of on-state current	di/dt	max. 200	$\text{A}/\mu\text{s}$
Critical rate of rise of off-state voltage	dv/dt	max. 1000	$\text{V}/\mu\text{s}$
Gate current required to trigger	$I_{GT}$	min. 150	mA
Gate voltage required to trigger	$V_{GT}$	min. 2	V
Maximum holding current	$I_H$	150	mA
Maximum latching current	$I_L$	300	mA
Isolation voltage	$V_{ISO}$	4000	V

Thermal & Mechanical Specifications ( $T_A = 25^\circ\text{C}$ unless otherwise noted)			
Parameter	Symbol	Values	Units
Operating junction temperature range	$T_J$	-40 to +125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +125	$^\circ\text{C}$
Thermal resistance, junction to case	$R_{th(jc)}$	0.16	$^\circ\text{C}/\text{W}$
Mounting torque	to heatsink	F	Nm
	to terminals		
Weight	W	220	g

## Package Outline

(All dimensions in mm)



## Circuit Configuration

Circuit Description	Configuration Code	Circuit Drawing
Series Connection (doubler circuit)	N	<p>The circuit drawing for the Series Connection (doubler circuit) shows two diodes connected in series. The first diode has its anode connected to terminal 1 and its cathode to terminal 2. The second diode has its anode connected to terminal 2 and its cathode to terminal 3. Terminal 4 is connected to ground (G) and terminal 5 is connected to the cathode (K) of the second diode.</p>
Common Anode	A	<p>The circuit drawing for the Common Anode configuration shows two diodes connected in series. The first diode has its anode connected to terminal 1 and its cathode to terminal 2. The second diode has its anode connected to terminal 2 and its cathode to terminal 3. Terminal 4 is connected to ground (G) and terminal 5 is connected to the cathode (K) of the second diode.</p>



## Ordering Table

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<i>NTD</i>	<i>162</i>	<i>N</i>	<i>200</i>	<i>H</i>
1	2	3	4	5

1 – Power Module

- > DD = Diode-Diode
- > TD = Thyristor-Diode
- > TT = Thyristor-Thyristor

2 – Current Rating =  $I_{T(AV)}$

3 – Circuit Configuration (see Table)

4 – Voltage Code (see Voltage Ratings table)

5 – High Voltage (2000V, 2200V)