

Thyristor-Diode Module, 50 Amps

Features

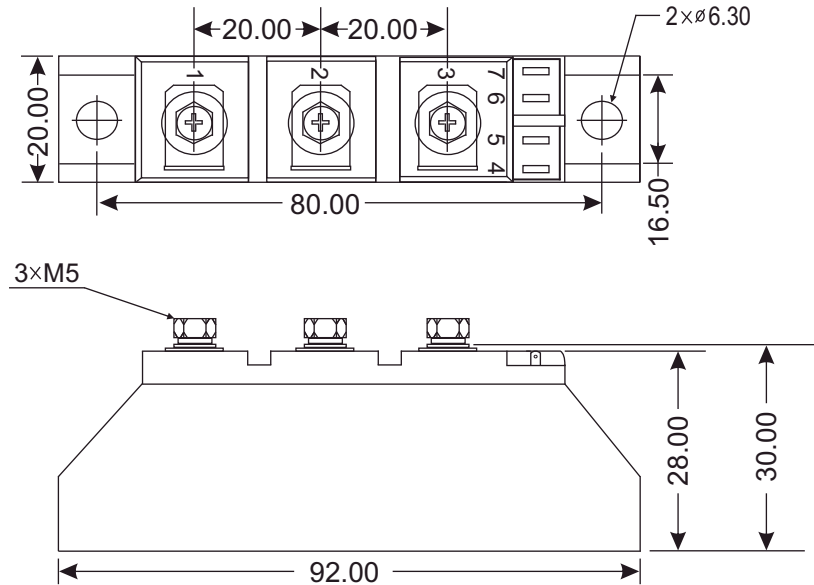
- Improved glass passivation for high reliability
- Exceptional stability at high temperatures
- High di/dt and dv/dt capabilities
- Low thermal resistance



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)
NTD57 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 @ $T_J = 85^\circ\text{C}$	$I_{T(AV)}$	50	A
Maximum average RMS forward current	$I_{T(RMS)}$	79	A
Maximum non-repetitive surge current	I_{TSM}	1500	A
Maximum I^2t for fusing	I^2t	11250	A^2s
Forward voltage drop	V_{TM}	max. 1.6	V
Critical rate of rise of on-state current	di/dt	max. 150	$\text{A}/\mu\text{s}$
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. 3	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	$R_{th(JC)}$	0.57	$^\circ\text{C}/\text{W}$
Mounting torque	to heatsink	$5 \pm 15\%$	Nm
	to terminals	$3 \pm 15\%$	
Weight	W	100	g

Package Outline
(All dimensions in mm)

Circuit Configuration

Circuit Description	Configuration Code	Circuit Drawing
Series Connection (doubler circuit)	N	<p>The diagram shows a series connection of two diodes. Terminal 1 is the AC input. Terminal 2 is the positive output. Terminal 3 is the negative output. Terminals 4 and 5 are the cathode (K) and anode (G) respectively.</p>
Common Anode	A	<p>The diagram shows a common anode connection of two diodes. Terminal 1 is the negative input. Terminal 2 is the positive output. Terminal 3 is the positive output. Terminals 4 and 5 are the cathode (K) and anode (G) respectively.</p>



Ordering Table

<i>NTT</i>	<i>57</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)