

Thyristor-Diode Module, 280 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)
NTD280 H	200	2000	2100	2000	max. 80
	220	2200	2300	2200	

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

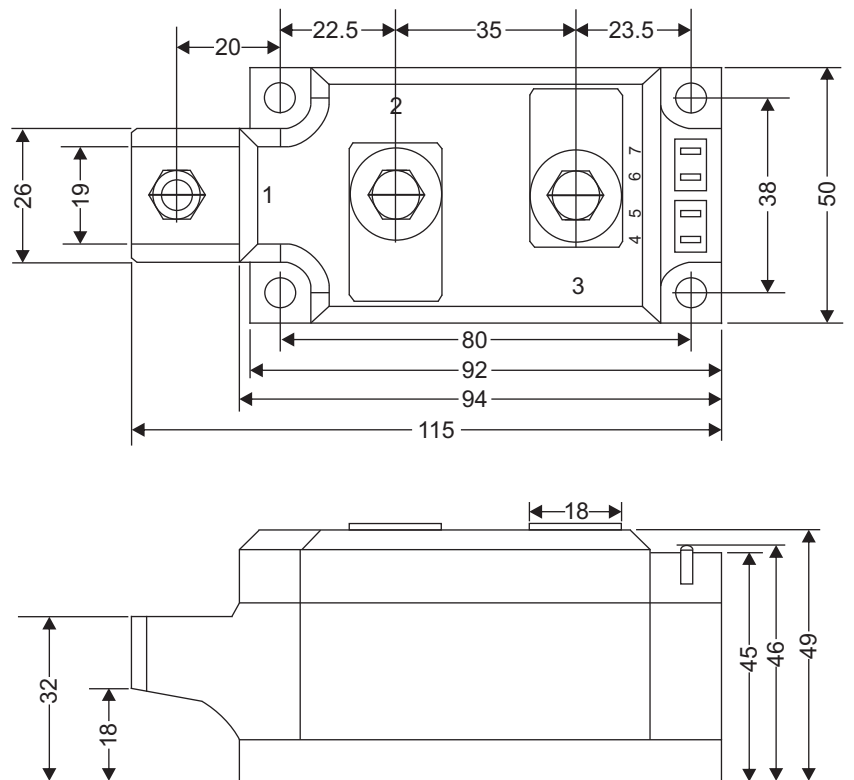
Parameter	Symbol	Values	Units
Maximum average forward current @ $T_J = 85^\circ\text{C}$	$I_{T(AV)}$	280	A
Maximum average RMS forward current	$I_{T(RMS)}$	440	A
Maximum non-repetitive surge current	I_{TSM}	9000	A
Maximum I^2t for fusing	I^2t	405000	A^2s
Forward voltage drop	V_{TM}	max. 1.6	V
Critical rate of rise of on-state current	di/dt	max. 250	A/ μs
Critical rate of rise of off-state voltage	dv/dt	max. 1000	V/ μs
Gate current required to trigger	I_{GT}	min. 200	mA
Gate voltage required to trigger	V_{GT}	min. 3	V
Holding current (typ/max)	I_H	150/500	mA
Latching current (typ/max)	I_L	300/2000	mA
Isolation voltage, 1 min.	V_{ISO}	4000	V

Thermal & Mechanical Specifications ($T_A = 25^\circ\text{C}$ unless otherwise noted)

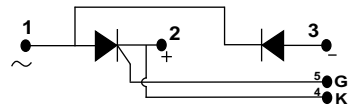
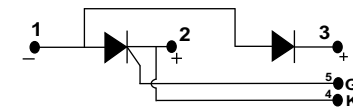
Parameter	Symbol	Values	Units
Operating junction temperature range	T_J	-40 to +125	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +125	$^\circ\text{C}$
Thermal resistance, junction to case	$R_{th(JC)}$	0.10	$^\circ\text{C/W}$
Mounting torque	to heatsink	$5 \pm 15\%$	Nm
	to terminals	$8 \pm 15\%$	
Weight	W	620	g

Package Outline

(All dimensions in mm)



Circuit Configuration

Circuit Description	Configuration Code	Circuit Drawing
Series Connection (doubler circuit)	N	
Common Anode	A	



Ordering Table

<i>NTD</i>	<i>280</i>	<i>N</i>	<i>200</i>	<i>H</i>
1	2	3	4	5

1 – Power Module

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

2 – Current Rating = $I_T(AV)$

3 – Circuit Configuration (see Table)

4 – Voltage Code (see Voltage Ratings table)

5 – Isolation Voltage, Viso

- > None = 3000V, 1 min.
- > H = 4000V, 1 min.