

Thyristor-Diode Module, 25 Amps

Features

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



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)
NTD27	60	600	700	600	max. 5
	80	800	900	800	
	100	1000	1100	1000	
	120	1200	1300	1200	
	140	1400	1500	1400	
	160	1600	1700	1600	
	180	1800	1900	1800	

Electrical Characteristics (T_A = 25°C unless otherwise noted)

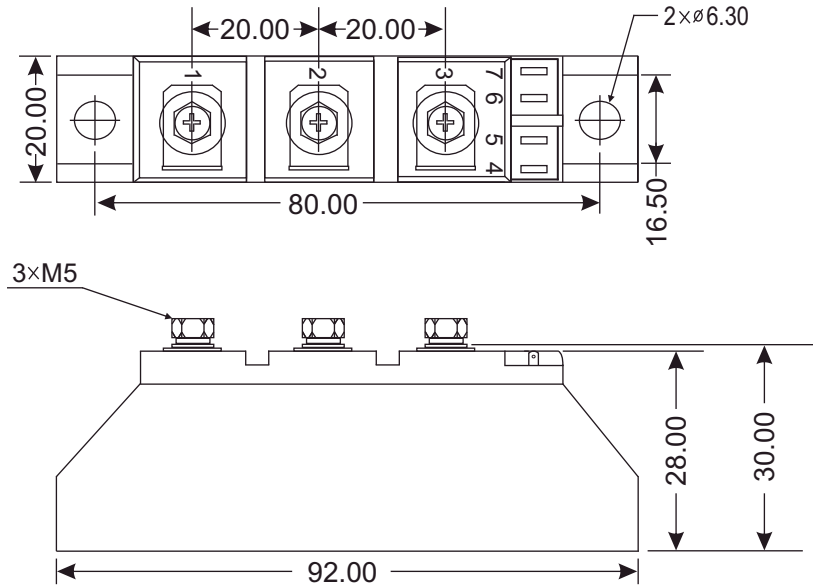
Parameter	Symbol	Values	Units
Maximum average forward current @ T _J = 85°C	I _{T(AV)}	25	A
Maximum average RMS forward current	I _{T(RMS)}	40	A
Maximum non-repetitive surge current	I _{TSM}	550	A
Maximum I ² t for fusing	I ² t	1500	A ² s
Forward voltage drop	V _{TM}	max. 1.7	V
Critical rate of rise of on-state current	di/dt	max. 150	A/μs
Critical rate of rise of off-state voltage	dv/dt	max. 1000	V/μs
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	100	mA
Maximum latching current	I _L	250	mA
Isolation voltage	V _{ISO}	3000	V

Thermal & Mechanical Specifications (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Values	Units
Operating junction temperature range	T _J	-40 to +125	°C
Storage temperature	T _{stg}	-40 to +125	°C
Thermal resistance, junction to case	R _{th(jc)}	0.9	°C/W
Mounting torque	to heatsink	5 ± 15%	Nm
	to terminals	3 ± 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. Pin 1 is connected to the AC input. The cathode of the first diode is connected to pin 2 (positive terminal). The anode of the second diode is connected to pin 3 (negative terminal). The cathode of the second diode is connected to pin 4 (GND). The anode of the first diode is connected to pin 5 (K).</p>
Common Anode	A	<p>The diagram shows a common anode connection of two diodes. Pin 1 is connected to the AC input. The anode of the first diode is connected to pin 2 (positive terminal). The cathode of the second diode is connected to pin 3 (positive terminal). The anode of the second diode is connected to pin 4 (GND). The cathode of the first diode is connected to pin 5 (K).</p>



Ordering Table

<i>NTD</i>	<i>27</i>	<i>N</i>	<i>160</i>
1	2	3	4

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)