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°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)
NTD57A	60	600	700	600	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	$I_{T(AV)}$	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}	1.2	V
Critical rate of rise of on-state current	di/dt	150	A/µs
Critical rate of rise of off-state voltage	dv/dt	1000	V/µs
Gate current required to trigger	I_{GT}	150	mA
Gate voltage required to trigger	V_{GT}	3	V
Maximum holding current	I_H	150	mA
Maximum latching current	I_L	300	mA
Isolation voltage	V_{ISO}	3000	V

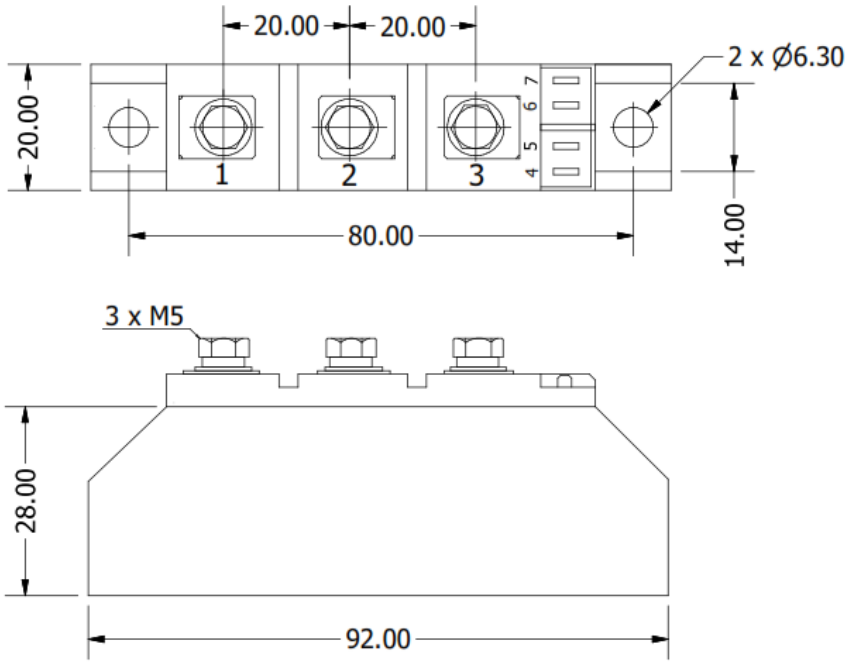
Thermal & Mechanical Specifications (T_A = 25°C unless otherwise noted)

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		$R_{th(JC)}$	0.57	°C/W
Mounting torque	to heatsink	F	4 ± 15%	Nm
	to terminals		3 ± 15%	
Weight		W	100	g

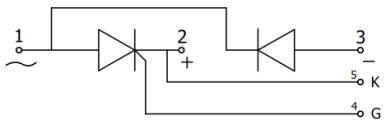
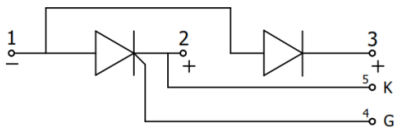
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Package Outline

(All dimensions in mm)



Circuit Configuration

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

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Ordering Table

NTD	*57*	*A*	*N*	*160*
1	2	3	4	5

1 – Power Module
- > DD = Diode-Diode
- > TD = Thyristor-Diode
- > TT = Thyristor-Thyristor

2 – Current Rating = $I_{T(AV)}$
3 – Package Type
4 – Circuit Configuration (see Table)
5 – Voltage Code (see Voltage Ratings table)

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