

YZPST-A1237NC280
Blocking - Off State

V_{DRM} (1)	V_{DSM} (1)	V_{RRM} (1)	V_{RSM} (1)
2800	2800	30	30

 V_{RRM} = Repetitive peak reverse voltage

 V_{DRM} = Repetitive peak off state voltage

 V_{RSM} = Non repetitive peak reverse voltage

Repetitive peak reverse leakage and off state	I_{RRM} / I_{DRM}	10 mA 60 mA (3)
Critical rate of voltage rise	dV/dt (4)	3000 V/ μ sec

Notes:

 All ratings are specified for $T_j=25^\circ\text{C}$ unless otherwise stated.

 (1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to $+125^\circ\text{C}$.

(2) 10 msec. max. pulse width

 (3) Maximum value for $T_j = 125^\circ\text{C}$.

 (4) Minimum value for linear and exponential waveshape to 80% rated V_{DRM} . Gate open. $T_j = 125^\circ\text{C}$.

(5) Non-repetitive value.

 (6) The value of di/dt is established in accordance with EIA/NIMA Standard RS-397, Section 5-2-2-6. The value defined would be in addition to that obtained from a snubber circuit, comprising a $0.2\ \mu\text{F}$ capacitor and 20 ohms resistance in parallel with the thyristor under test.

Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average value of on-state current	$I_{T(AV)M}$		1237		A	Sinewave, 180° conduction, $T_c=55^\circ\text{C}$
RMS value of on-state current	I_{TRMSM}		2555		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{TSM}		-		KA	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125^\circ\text{C}$
			18		KA	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125^\circ\text{C}$
I square t	I^2t		1.62×10^3		KA^2s	8.3 msec and 10.0 msec
Latching current	I_L		-		mA	$V_D = 24\ \text{V}$; $R_L = 12\ \text{ohms}$
Holding current	I_H		1000		mA	$V_D = 24\ \text{V}$; $I = 2.5\ \text{A}$
Peak on-state voltage	V_{TM}		2.1		V	$I_{TM} = 2000\ \text{A}$; Duty Cycle $\leq 0.01\%$; $T_j = 125^\circ\text{C}$
Threshold voltage	V_{TO}		1.7		V	
Slope resistance	r_T		0.21		$\text{m}\Omega$	
Critical rate of rise of on-state current (5, 6)	di/dt		2000		$\text{A}/\mu\text{s}$	Switching from $V_{DRM} \leq 1000\ \text{V}$, non-repetitive
Critical rate of rise of on-state current (6)	di/dt		1000		$\text{A}/\mu\text{s}$	Switching from $V_{DRM} \leq 1000\ \text{V}$

ELECTRICAL CHARACTERISTICS AND RATINGS
Gating

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Peak gate power dissipation	P_{GM}		30		W	
Average gate power dissipation	$P_{G(AV)}$		10		W	
Peak gate current	I_{GM}		-		A	
Gate current required to trigger all units	I_{GT}		- 400 -		mA mA mA	$V_D = 10\text{ V}; R_L = 3\text{ ohms}; T_j = -40\text{ }^\circ\text{C}$ $V_D = 10\text{ V}; R_L = 3\text{ ohms}; T_j = +25\text{ }^\circ\text{C}$ $V_D = 10\text{ V}; R_L = 3\text{ ohms}; T_j = +125\text{ }^\circ\text{C}$
Gate voltage required to trigger all units	V_{GT}		- 3.0 -		V V V	$V_D = 10\text{ V}; R_L = 3\text{ ohms}; T_j = -40\text{ }^\circ\text{C}$ $V_D = 10\text{ V}; R_L = 3\text{ ohms}; T_j = 0-125\text{ }^\circ\text{C}$ $V_D = \text{Rated } V_{DRM}; R_L = 1000\text{ ohms}; T_j = +125\text{ }^\circ\text{C}$
Peak negative voltage	V_{RGM}		10		V	

Dynamic

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Delay time	t_d		-	1	μs	$I_{TM} = 50\text{ A}; V_D = \text{Rated } V_{DRM}$ Gate pulse: $V_G = 20\text{ V}; R_G = 20\text{ ohms}; t_r = 0.1\text{ } \mu\text{s}; t_p = 20\text{ } \mu\text{s}$
Turn-off time (with $V_R = -50\text{ V}$)	t_q		-	20	μs	$I_{TM} = 1000\text{ A}; di/dt = 25\text{ A}/\mu\text{s}; V_R \geq -50\text{ V};$ Re-applied $dV/dt = 20\text{ V}/\mu\text{s}$ linear to 80% $V_{DRM}; V_G = 0;$ $T_j = 125\text{ }^\circ\text{C};$ Duty cycle $\geq 0.01\%$
Reverse recovery charge	Q_{rr}		-	-	μC	$I_{TM} = 1000\text{ A}; di/dt = 25\text{ A}/\mu\text{s}; V_R \geq -50\text{ V}$

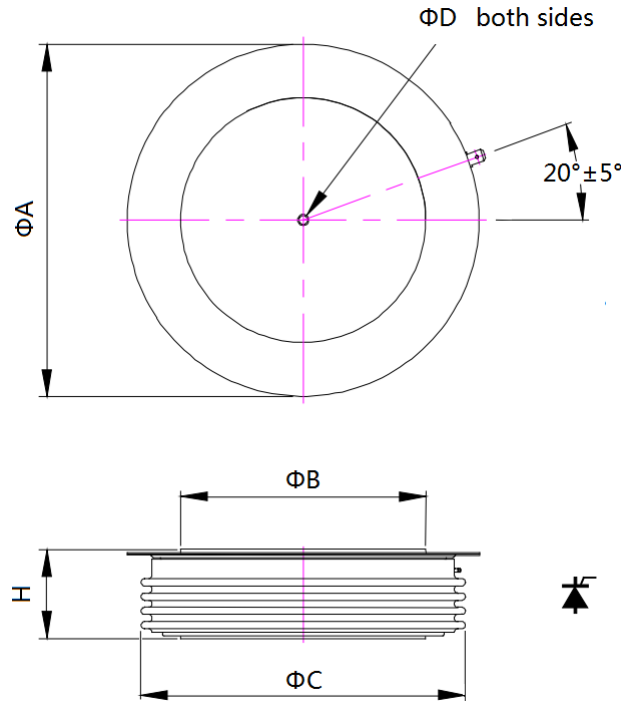
* For guaranteed max. value, contact factory.

THERMAL AND MECHANICAL CHARACTERISTICS AND RATINGS

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		$^\circ\text{C}$	
Storage temperature	T_{stg}	-40	+150		$^\circ\text{C}$	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		-		K/KW	Double sided cooled Single sided cooled
Thermal resistance - case to heatsink	$R_{\theta(c-s)}$		-		K/KW	Double sided cooled * Single sided cooled *
Thermal resistance - junction to heatsink	$R_{\theta(j-s)}$		24 48		K/KW	Double sided cooled * Single sided cooled *
Mounting force	P	19	26		kN	
Weight	W			510	g	About

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS



Sym	A	B	C	D	H
mm	75	47	66	3.5x3	26±1