

Prospective Data

Pulse Thyristor

Type Y5002NC250

Absolute Maximum Ratings

	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
V_{DRM}	Repetitive peak off-state voltage, (note 1)	2500	V
V_{DSM}	Non-repetitive peak off-state voltage, (note 1)	2500	V
V_{RRM}	Repetitive peak reverse voltage, (note 1)	2000	V
V_{RSM}	Non-repetitive peak reverse voltage, (note 1)	2100	V
V_{DC}	Permanent dc voltage	1500	V

	OTHER RATINGS	MAXIMUM LIMITS	UNITS
I_{TM}	Maximum pulse current, (note 2)	50	kA
I^2t	Load limit integral, (note 2)	312.5×10^3	A^2s
$I_{T(AV)M}$	Maximum average on-state current. $T_{sink}=85^\circ C$, (note 3)	700	A
$(di/dt)_{cr}$	Critical rate of rise of on-state current (non-repetitive), (Note 4)	11	kA/ μs
V_{RGM}	Peak reverse gate voltage	18	V
$T_{j op}$	Operating temperature range	-40 to +125	$^\circ C$
T_{stg}	Storage temperature range	-40 to +150	$^\circ C$

Notes:-

- 1) $V_{GK}=-2V$
- 2) $T_j=125^\circ C$, half-sinewave, $t_p(max)=250\mu s$
- 3) Double side cooled, single phase; 50Hz, 180° half-sinewave.

Characteristics

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V_{TM}	Maximum peak on-state voltage	-	-	10	$I_G=4A$, $I_{TM}=10000A$	V
V_{T0}	Threshold voltage	-	-	1.755		V
r_T	Slope resistance	-	-	1.122		m Ω
$(dv/dt)_{cr}$	Critical rate of rise of off-state voltage	1000	-	-	$V_D=67\% V_{DRM}$, Linear ramp, $V_{GK}=-2V$	V/ μs
I_{DRM}	Peak off-state current	-	-	100	Rated V_{DRM}	mA
I_{RRM}	Peak reverse current	-	-	100	Rated V_{RRM}	mA
I_L	Latching current	-	10	-	$T_j=25^\circ C$	A
I_H	Holding current	-	10	-		A
I_{GT}	Nominal gate trigger current	-	-	80	$di/dt=100A/\mu s$, $T_j=25^\circ C$	A
t_{gd}	Gate controlled turn-on delay time	-	0.9	-	$V_D=1500V$, $I_{TM}=25kA$, $di/dt=5500A/\mu s$, $I_{FG}=50A$, $di/dt=100A/\mu s$, $T_j=25^\circ C$.	μs
t_{gt}	Turn-on time	-	1.0	-		
R_{thJK}	Thermal resistance, junction to heatsink	-	-	0.027	Double side cooled	K/W
		-	-	0.045	Anode side cooled	K/W
		-	-	0.07	Cathode side cooled	K/W
F	Mounting force	15	-	25		kN
W_t	Weight	-	480	-		g

Notes:-

1) Unless otherwise indicated $T_j=125^\circ C$.

Outline Drawing & Ordering Information
