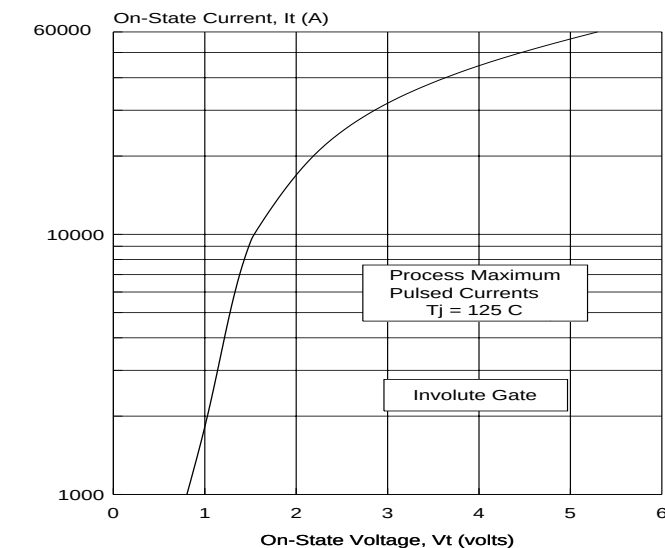


Type SDT200 reverse blocking thyristor, suitable for phase control applications, is especially designed for lowest on-state voltage drop. It is intended for heavy industrial, utility and transportation service.

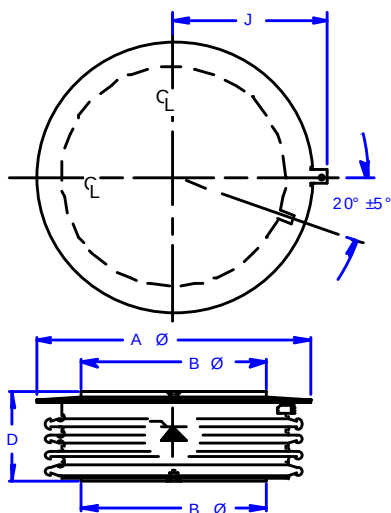
The silicon junction is manufactured by the proven multi-diffusion process and is supplied in an industry standard disc-type package, ready to mount to natural or forced cooled heat dissipators using commercially available mechanical clamping hardware.

ON-STATE CHARACTERISTIC



01k:T200ONST

MECHANICAL OUTLINE



$A_f = 4.35$ in (110.5 mm)

$B_f = 2.88$ in (73.2 mm)

$D = 1.45$ in (36.8 mm)

PRINCIPAL RATINGS AND CHARACTERISTICS

OPERATING JUNCTION TEMPERATURE RANGE

-40 to +125°C

Repetitive peak off-state and reverse voltage	V_{DRM} to V_{RRM}	1800V
Average on-state current @ $T_J = 70^\circ\text{C}$	$I_{T(AV)}$	3200A
Peak half cycle surge current for $V_r = 0$ V	I_{TSH}	8.3 ms / 10.0 ms 55.0 kA / 51.0 kA
Maximum peak recovery current, @ 2A/ms	I_{RM}	49A
On-state Voltage @ $I_T = 2000$ A	V_{TM}	0.975V
Critical rate of rise of current @ $V_o = 1500$ V	di/dt	125A/us
Critical rate of rise of off-state voltage	dv/dt	1000V/us
Turn-off time (typ)	t_q	to 0.8V _{DRM} 400us

Model No.	V_{DRM} / V_{RRM} -40°C to +125°C
SDT200TR	1800 1800
SDT200TP	1700 1700
SDT200TM	1600 1600
SDT200TK	1500 1500

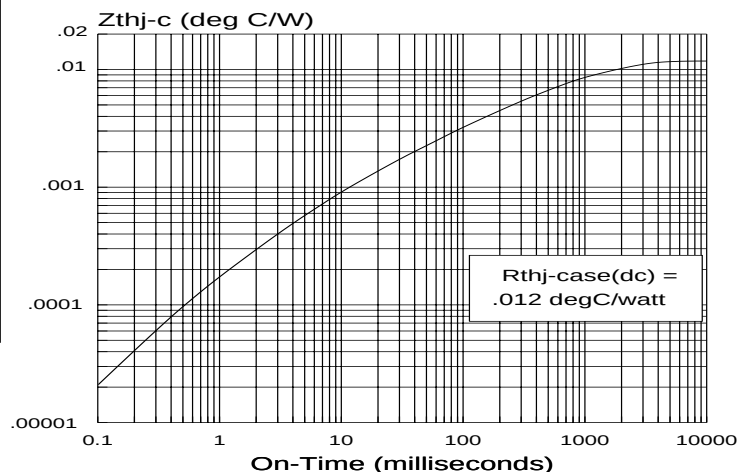
GATE DRIVE REQUIREMENTS

Open circuit voltage / short circuit current	30V / 3A
Short circuit risetime	0.5us
Minimum pulse duration	10us

EXTERNALLY REQUIRED CLAMPING FORCE

8000 - 9000 lbs. / 35.6 - 40.0 kN

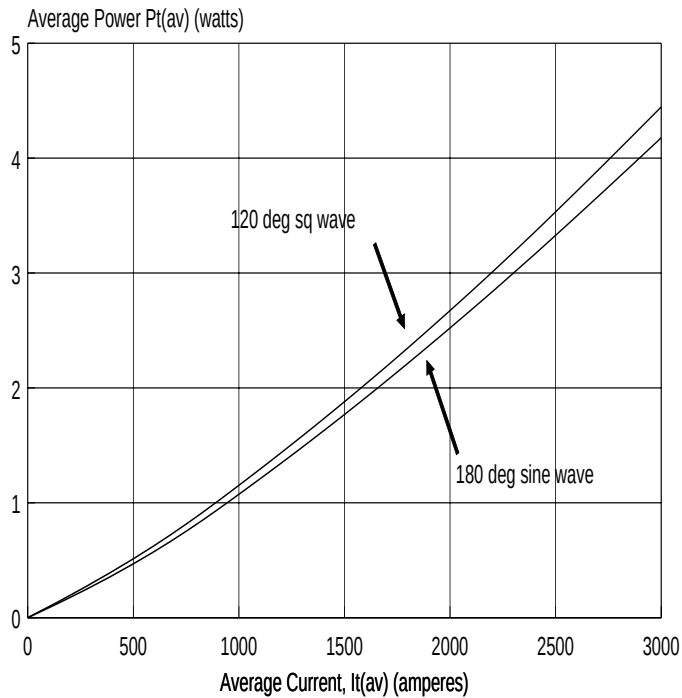
THERMAL IMPEDANCE vs. ON-TIME



SDT200 / T200

FULL CYCLE AVERAGE POWER

@ $T_j = 125^\circ\text{C}$
60 Hz

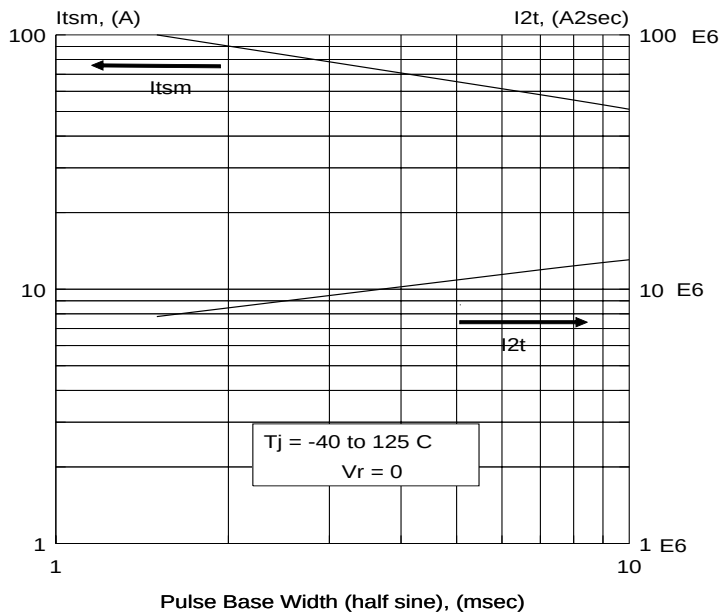


01K:T200PTAV

FULL CYCLE AVERAGE POWER at $T_j = 125^\circ\text{C}$

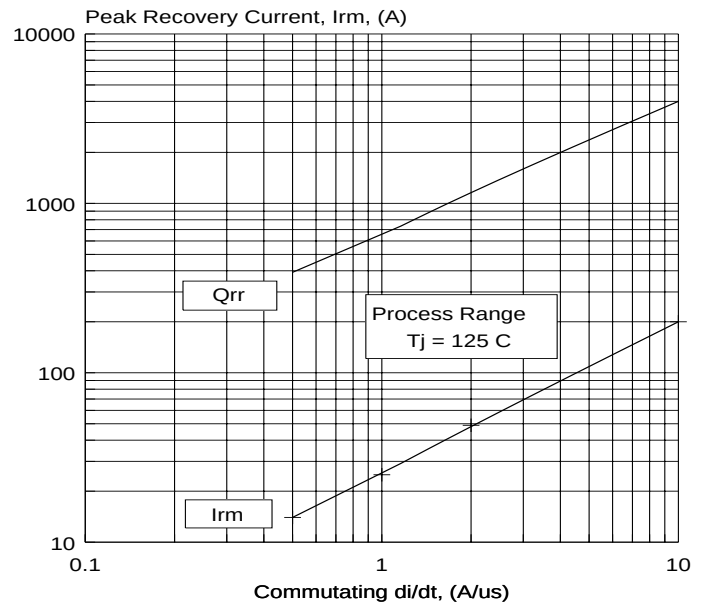
Full Cycle average $I_{T(AV)}$ (A)	180° half-sine $P_{T(AV)}$ (W)	120° square wave $P_{T(AV)}$ (W)
500	423	471
600	544	599
700	699	730
800	798	865
900	929	1001
1000	1060	1140
1200	1335	1425
1400	1617	1719
1600	1907	2022
1800	2205	2336
2000	2511	2660
2500	3315	3516
3000	4177	4445
3200	4539	4840

Non-Repetitive Sub-cycle Surge Ratings with Commutating di/dt



01K:T200ITSM

Peak Recovery Current Relationship with Commutating di/dt



01K:T200REC