ANSALDO

Ansaldo Trasporti s.p.a.
Unita' Semiconduttori

Via N. Lorenzi 8 - I 16152 GENOVA - ITALY
Tel. int. +39/(0)10 6556549 - (0)10 6556488
Fax Int. +39/(0)10 6442510
Tx 270318 ANSUSE I -

PHASE CONTROL THYRISTOR AT302

Repetitive voltage up to **800 V**
Mean on-state current **995 A**
Surge current **12 kA**

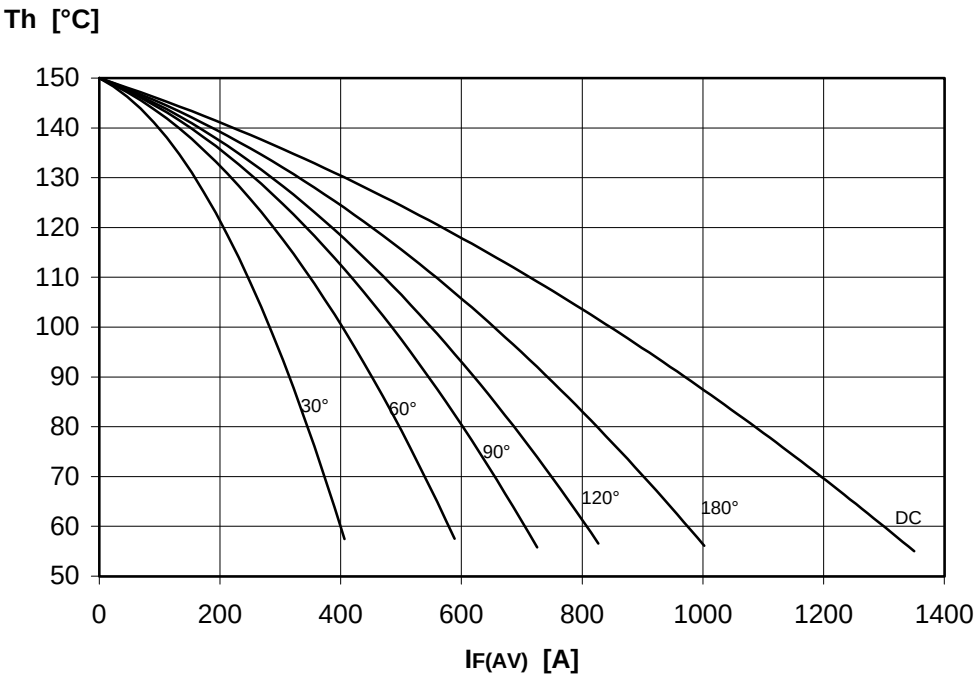
FINAL SPECIFICATION
feb 97 - ISSUE : 02

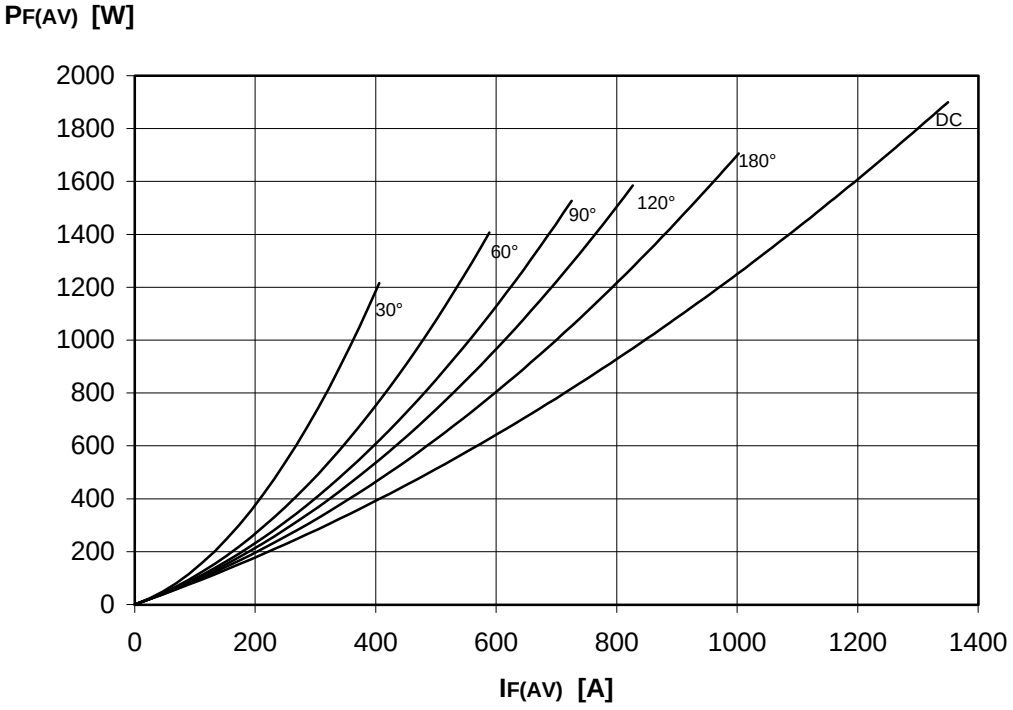
Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		150	800	V
V_{RSM}	Non-repetitive peak reverse voltage		150	900	V
V_{DRM}	Repetitive peak off-state voltage		150	800	V
I_{RRM}	Repetitive peak reverse current	V=VRRM	150	50	mA
I_{DRM}	Repetitive peak off-state current	V=VDRM	150	50	mA
CONDUCTING					
$I_{T(AV)}$	Mean on-state current	180° sin, 50 Hz, Th=55°C, double side cooled		995	A
$I_{T(AV)}$	Mean on-state current	180° sin, 50 Hz, Tc=85°C, double side cooled		980	A
I_{TSM}	Surge on-state current	sine wave, 10 ms	150	11.5	kA
I^2t	I^2t	without reverse voltage		661 x1E3	A^2s
V_T	On-state voltage	On-state current = 1000 A	25	1.25	V
$V_{T(TO)}$	Threshold voltage		150	0.8	V
r_T	On-state slope resistance		150	0.450	mohm
SWITCHING					
di/dt	Critical rate of rise of on-state current, min.	From 75% VDRM up to 1200 A, gate 10V 5ohm	150	200	A/µs
dv/dt	Critical rate of rise of off-state voltage, min.	Linear ramp up to 70% of VDRM	150	500	V/µs
td	Gate controlled delay time, typical	VD=100V, gate source 10V, 10 ohm , tr=.5 µs	25	1.5	µs
tq	Circuit commutated turn-off time, typical	dV/dt = 20 V/µs linear up to 75% VDRM			µs
Q_{rr}	Reverse recovery charge	di/dt=-20 A/µs, I= 1000 A	150		µC
I_{rr}	Peak reverse recovery current	VR= 50 V			A
I_H	Holding current, typical	VD=5V, gate open circuit	25	300	mA
I_L	Latching current, typical	VD=5V, tp=30µs	25	700	mA
GATE					
V_{GT}	Gate trigger voltage	VD=5V	25	3.5	V
I_{GT}	Gate trigger current	VD=5V	25	200	mA
V_{GD}	Non-trigger gate voltage, min.	VD=VDRM	150	0.25	V
V_{FGM}	Peak gate voltage (forward)			30	V
I_{FGM}	Peak gate current			10	A
V_{RGM}	Peak gate voltage (reverse)			5	V
P_{GM}	Peak gate power dissipation	Pulse width 100 µs		150	W
P_G	Average gate power dissipation			2	W
MOUNTING					
$R_{th(j-h)}$	Thermal impedance, DC	Junction to heatsink, double side cooled		50	°C/kW
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		15	°C/kW
T_j	Operating junction temperature			-30 / 150	°C
F	Mounting force			8.0 / 9.0	kN
	Mass			85	g

ORDERING INFORMATION : AT302 S 08
standard specification — VDRM&VRRM/100

DISSIPATION CHARACTERISTICS

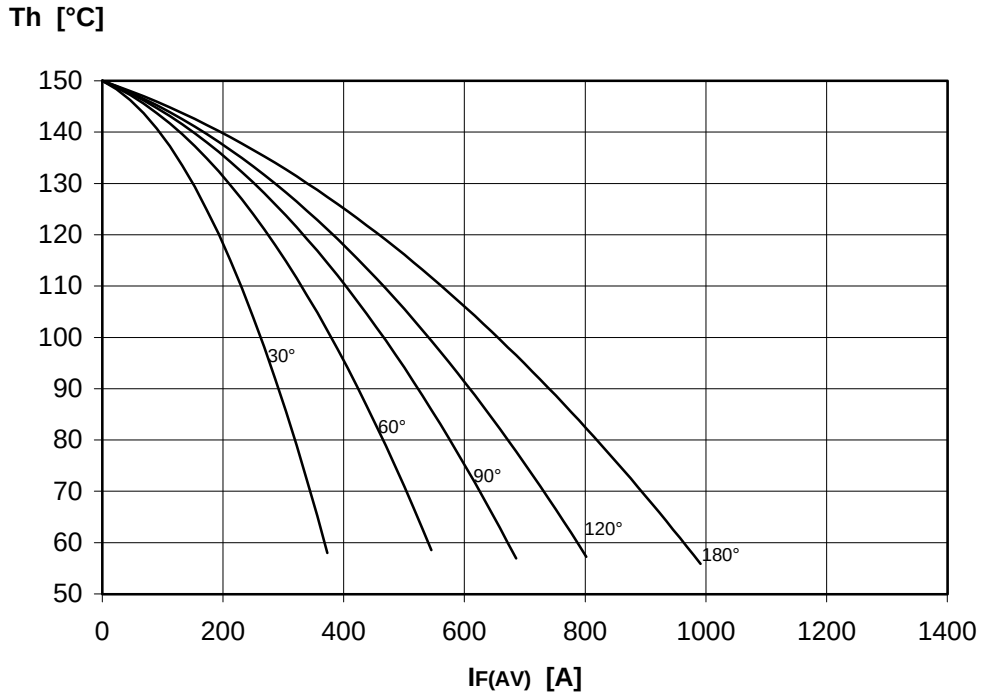
SQUARE WAVE

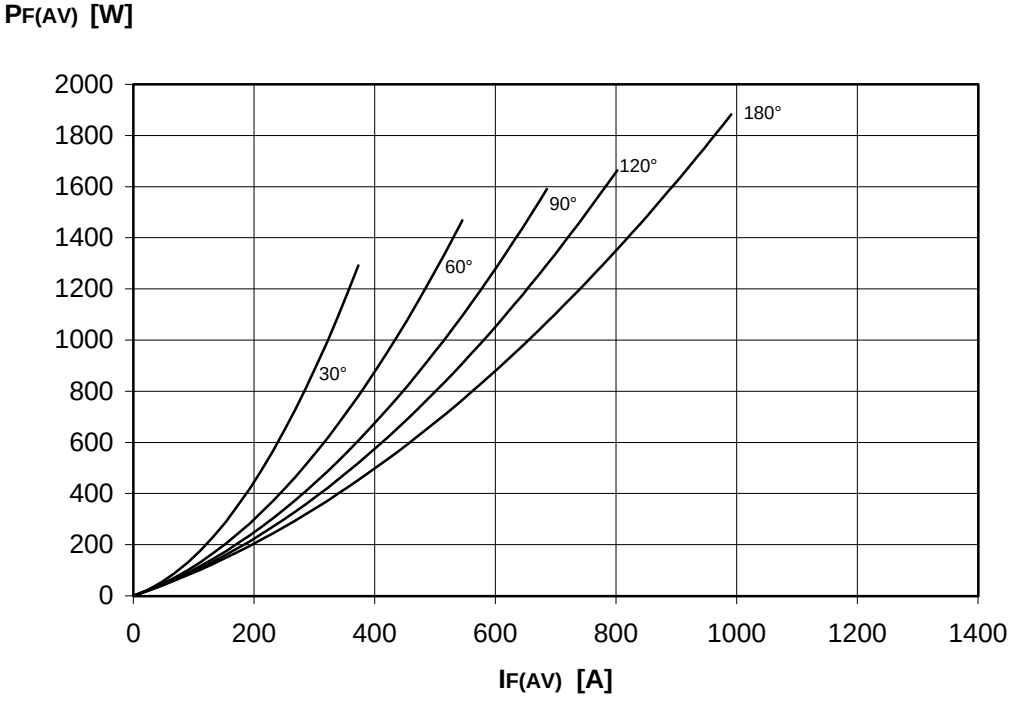




DISSIPATION CHARACTERISTICS

SINE WAVE





AT302 PHASE CONTROL THYRISTOR

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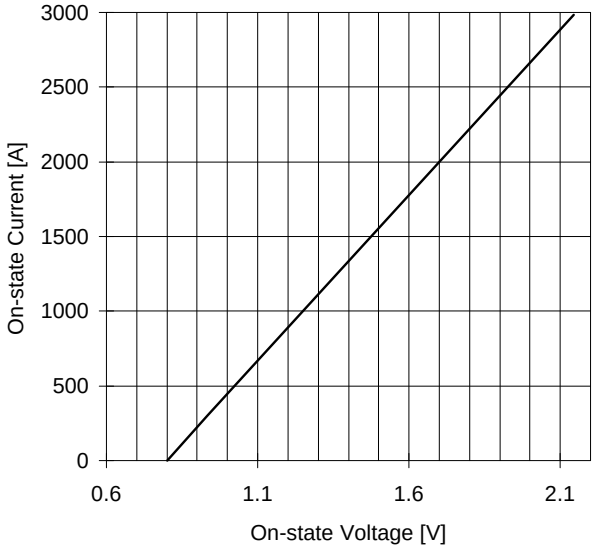
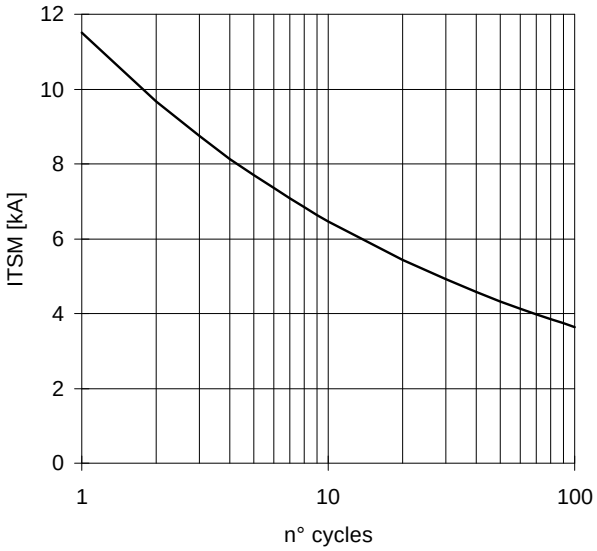
FINAL SPECIFICATION feb 97 - ISSUE : 02

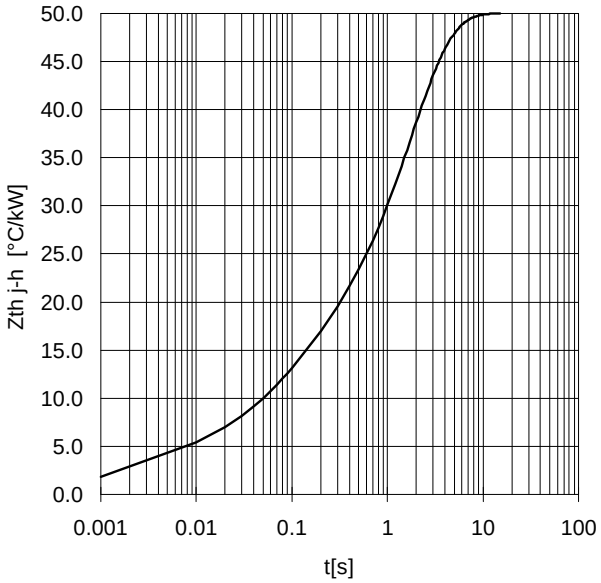
ON-STATE CHARACTERISTIC
Tj = 150 °C

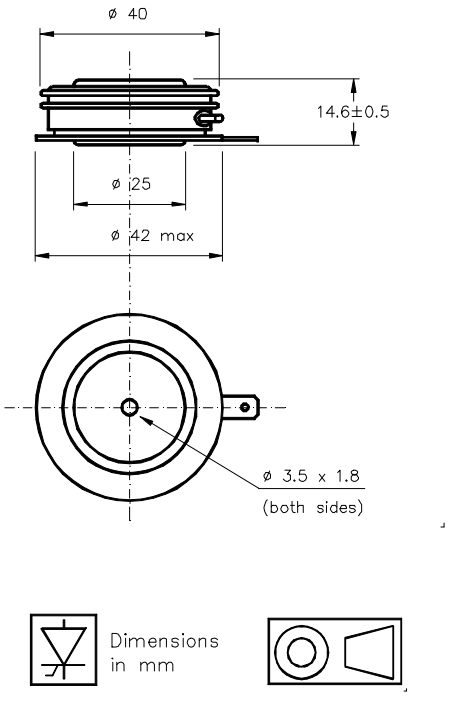


SURGE CHARACTERISTIC
Tj = 150 °C



TRANSIENT THERMAL IMPEDANCE
DOUBLE SIDE COOLED





Cathode terminal type DIN 46244 - A 4.8 - 0.8
Gate terminal type AMP 60598 - 1

All the characteristics given in this data sheet are guaranteed only with uniform clamping force, cleaned and lubricated heatsink, surfaces with flatness < .03 mm and roughness < 2 µm.
In the interest of product improvement ANSALDO reserves the right to change any data given in this data sheet at any time without previous notice.
If not stated otherwise the maximum value of ratings (simbols over shaded background) and characteristics is reported.

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