POSEICO
POSEICO SPA
POwer SEmiconductors Italian COrporation

POSEICO S.p.A.
Via N. Lorenzi 8, 16152 Genova - ITALY
Tel. +39 010 6556234 - Fax +39 010 6557519
Sales Office:
Tel. +39 010 6556775 - Fax +39 010 6442510

PHASE CONTROL THYRISTOR

AT708LT

Repetitive voltage up to **800 V**
Mean on-state current **5440 A**
Surge current **70 kA**

FINAL SPECIFICATION

lug 03 - ISSUE : 2

Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		140	800	V
V_{RSM}	Non-repetitive peak reverse voltage		140	900	V
V_{DRM}	Repetitive peak off-state voltage		140	800	V
I_{RRM}	Repetitive peak reverse current	V=VRRM	140	200	mA
I_{DRM}	Repetitive peak off-state current	V=VDRM	140	200	mA
CONDUCTING					
$I_{T(AV)}$	Mean on-state current	180° sin, 50 Hz, Th=55°C, double side cooled		5440	A
$I_{T(AV)}$	Mean on-state current	180° sin, 50 Hz, Tc=85°C, double side cooled		4750	A
I_{TSM}	Surge on-state current	sine wave, 10 ms	140	70	kA
I^2t	I^2t	without reverse voltage		24500 x1E3	A^2s
V_T	On-state voltage	On-state current = 10000 A	25	1,5	V
$V_{T(TO)}$	Threshold voltage		140	0,84	V
r_T	On-state slope resistance		140	0,060	mohm
SWITCHING					
di/dt	Critical rate of rise of on-state current, min.	From 75% VDRM up to 3900 A, gate 10V 5ohm	140	320	A/µs
dv/dt	Critical rate of rise of off-state voltage, min.	Linear ramp up to 70% of VDRM	140	500	V/µs
td	Gate controlled delay time, typical	VD=100V, gate source 10V, 10 ohm , tr=.5 µs	25	3	µs
tq	Circuit commutated turn-off time, typical	dV/dt = 20 V/µs linear up to 75% VDRM		160	µs
Q rr	Reverse recovery charge	di/dt=-20 A/µs, I= 2600 A	140		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	1000	mA
GATE					
V_{GT}	Gate trigger voltage	VD=5V	25	3,5	V
I_{GT}	Gate trigger current	VD=5V	25	250	mA
V_{GD}	Non-trigger gate voltage, min.	VD=VDRM	140	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		9,5	°C/kW
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		2	°C/kW
T_j	Operating junction temperature			-30 / 140	°C
F	Mounting force			40.0 / 50.0	kN
	Mass			1150	g

ORDERING INFORMATION : AT708LT S 08

standard specification — VDRM&VRRM/100

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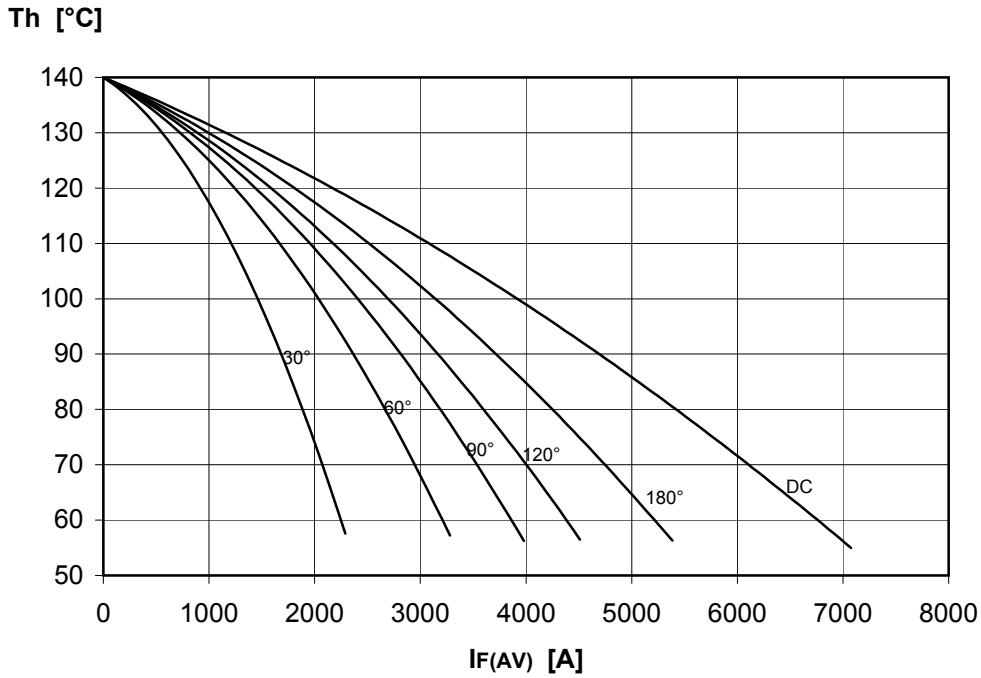
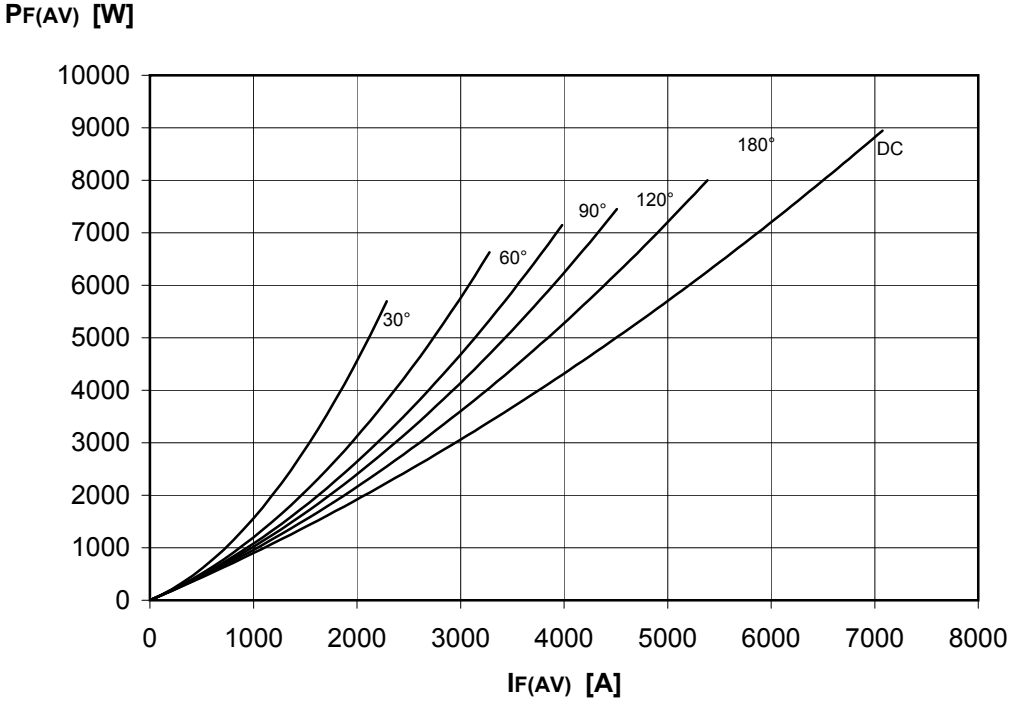
FINAL SPECIFICATION lug 03 - ISSUE : 2

DISSIPATION CHARACTERISTICS

SQUARE WAVE





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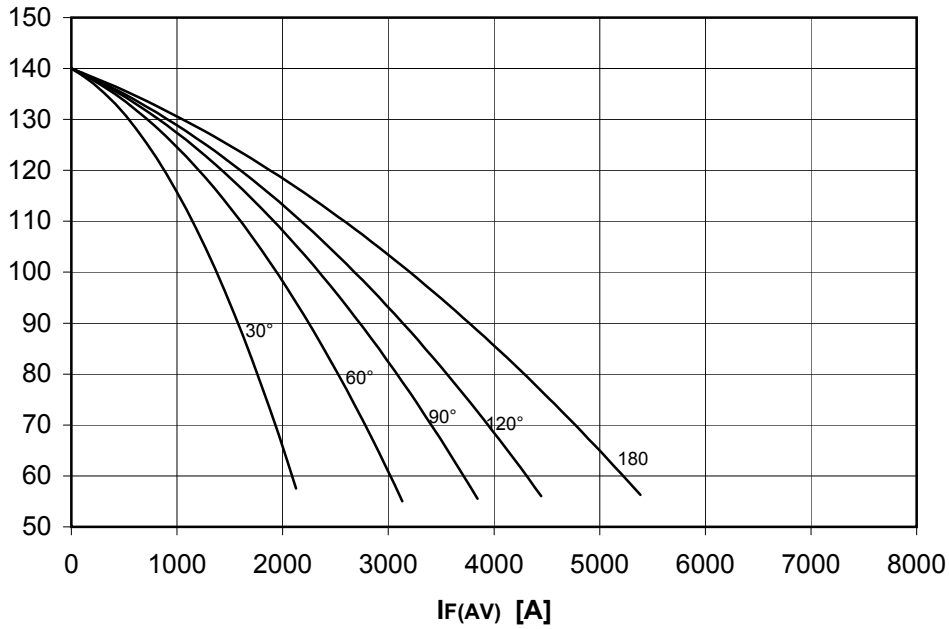
FINAL SPECIFICATION lug 03 - ISSUE : 2

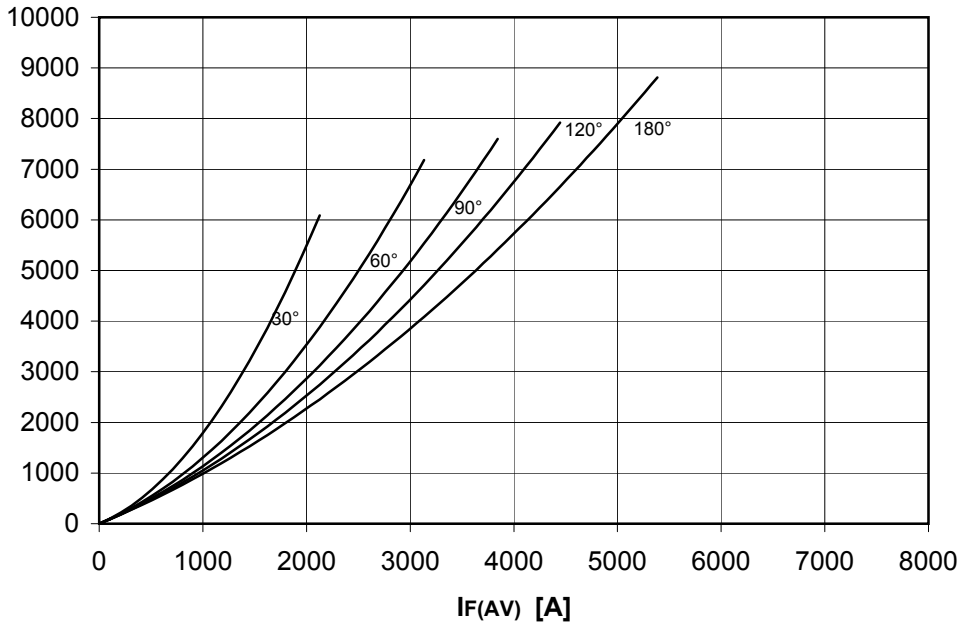
DISSIPATION CHARACTERISTICS

SINE WAVE

Th [°C]



PF(AV) [W]



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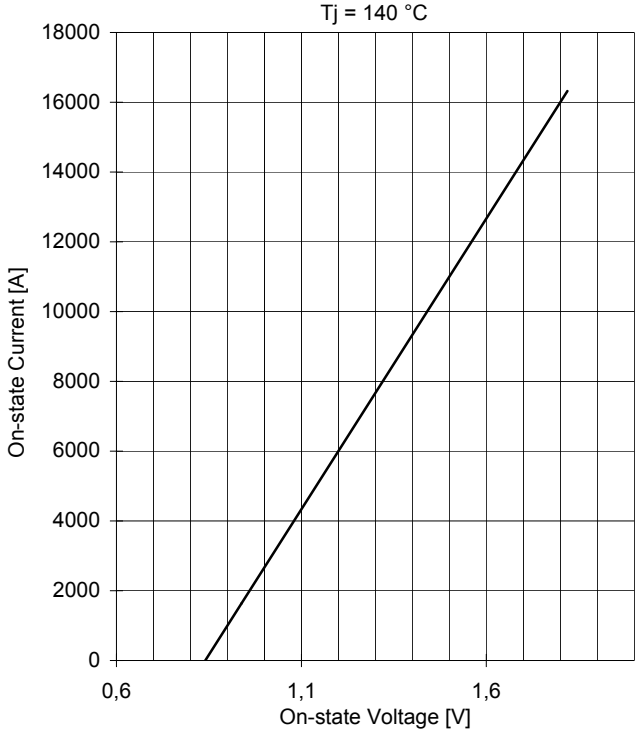
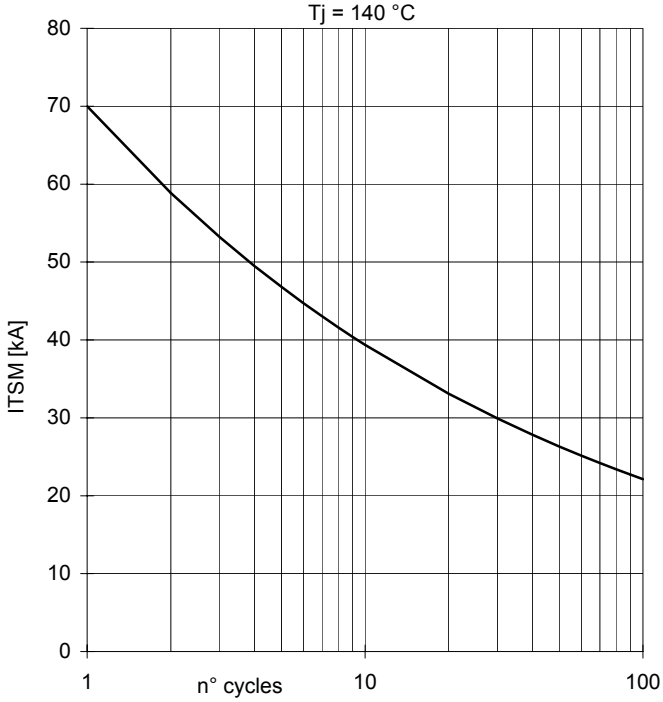
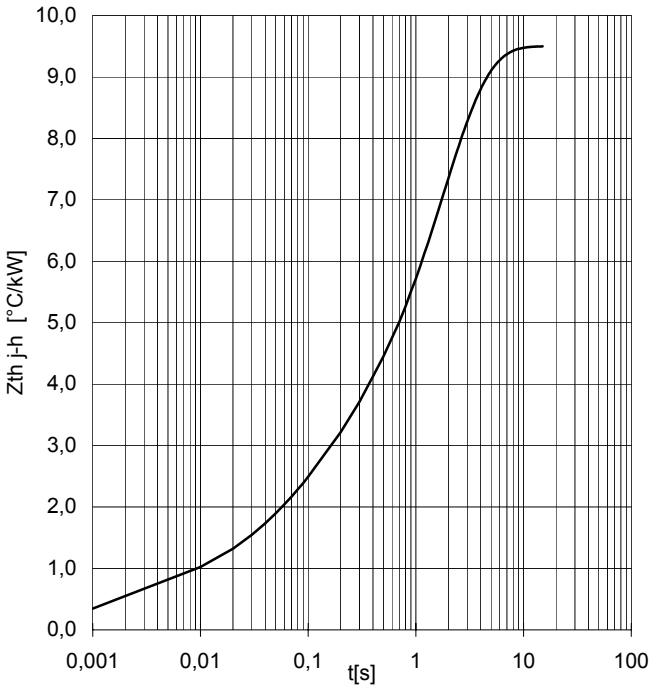
ON-STATE CHARACTERISTIC
Tj = 140 °C

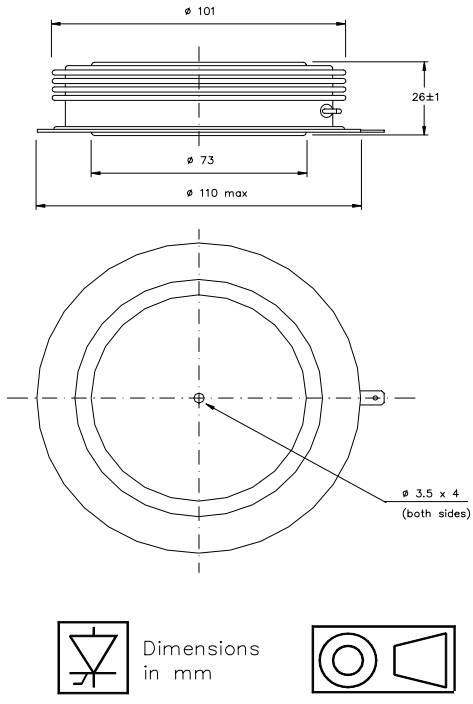


SURGE CHARACTERISTIC
Tj = 140 °C



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 POSEICO SPA 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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