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## HIGH CURRENT PHASE CONTROL THYRISTOR INSULATED MODULE

- Full hermetic packaging
- Base plate insulation using AlN substrate
- Industrial compatible packaging
- Contract screws available on request

# AZT740

Repetitive voltage up to **2200 V**  
Mean on-state current **740 A**  
Surge current **30 kA**

### TARGET SPECIFICATION

feb 04 - ISSUE : 1

Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub> / DRM	Repetitive peak reverse/off-state voltage		125	2200	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		125	2300	V
I <sub>RRM</sub> / DRM	Repetitive peak reverse/off-state current		125	70	mA
<b>CONDUCTING</b>					
I <sub>T(AV)</sub>	Mean on-state current	180° sin, 50Hz, T <sub>c</sub> =85°C		740	A
I <sub>T(AV)</sub>	Mean on-state current	180° sin, 50Hz, T <sub>c</sub> =55°C		1080	A
I <sub>TSM</sub>	Surge on-state current	sine wave, 10 ms	125	30	kA
I <sup>2</sup> t	I <sup>2</sup> t	without reverse voltage		4500 x1E3	A <sup>2</sup> s
V <sub>T</sub>	On-state voltage	On-state current = 1800 A	25	1.53	V
V <sub>T(TO)</sub>	Threshold voltage		125	0.90	V
r <sub>T</sub>	On-state slope resistance		125	0.240	mohm
<b>SWITCHING</b>					
di/dt	Critical rate of rise of on-state current, min.	From 75% VDRM up to 1050 A, gate 10V 5 ohm	125	200	A/μs
dv/dt	Critical rate of rise of off-state voltage, min.	Linear ramp up to 70% of VDRM	125	500	V/μs
t <sub>d</sub>	Gate controlled delay time, typical	VD = 100V, gate source 25 V, 10 ohm, tr = 0.5 μs	25	3	μs
t <sub>q</sub>	Circuit commutated turn-off time, typical	dV/dt = 20 V/μs linear up to 75% VDRM		250	μs
Q <sub>rr</sub>	Reverse recovery charge	di/dt = -20 A/μs, I = 700 A	125		μC
I <sub>rr</sub>	Peak reverse recovery current	VR = 50 V			A
I <sub>H</sub>	Holding current, typical	VD = 5V, gate open circuit	25	300	mA
I <sub>L</sub>	Latching current, typical	VD = 5 V, tp = 30 μs	25	700	mA
<b>GATE</b>					
V <sub>GT</sub>	Gate trigger voltage	VD = 5 V	25	3.5	V
I <sub>GT</sub>	Gate trigger current	VD = 5 V	25	300	mA
V <sub>GD</sub>	Non-trigger gate voltage, min.	VD = VDRM	125	0.25	V
V <sub>FGM</sub>	Peak gate voltage (forward)			30	V
I <sub>FGM</sub>	Peak gate current			10	A
V <sub>RGM</sub>	Peak gate voltage (reverse)			5	V
P <sub>GM</sub>	Peak gate power dissipation	Pulse width 100 μs		150	W
P <sub>G</sub>	Average gate power dissipation			2	W
<b>MOUNTING</b>					
R <sub>th(j-c)</sub>	Thermal impedance, DC	Junction to case		42	°C/kW
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink		20	°C/kW
T <sub>j</sub>	Operating junction temperature			-30 / 125	°C
V <sub>ins</sub>	RMS insulation voltage	50Hz, circuit to base, all terminal shorted	25	4500	V
T	Mounting torque	Case to heatsink		4 to 6	Nm
	Mass			2800	g
<b>ORDERING INFORMATION : AZT740 S 22</b>					
standard specification <input type="checkbox"/> <input type="checkbox"/> VDRM&VRRM/100					

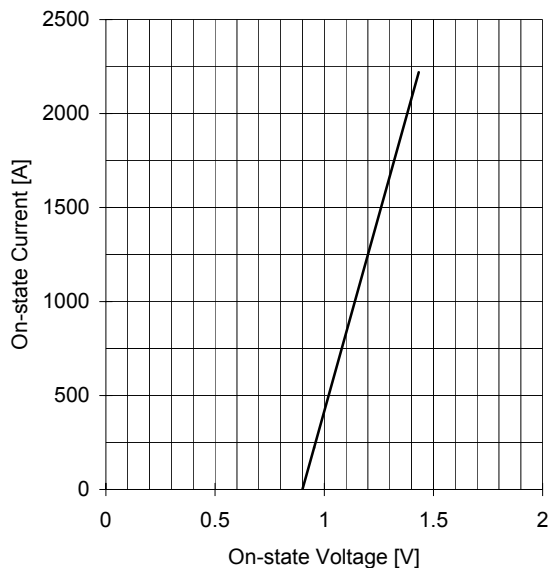
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## HIGH CURRENT PHASE CONTROL THYRISTOR INSULATED MODULE

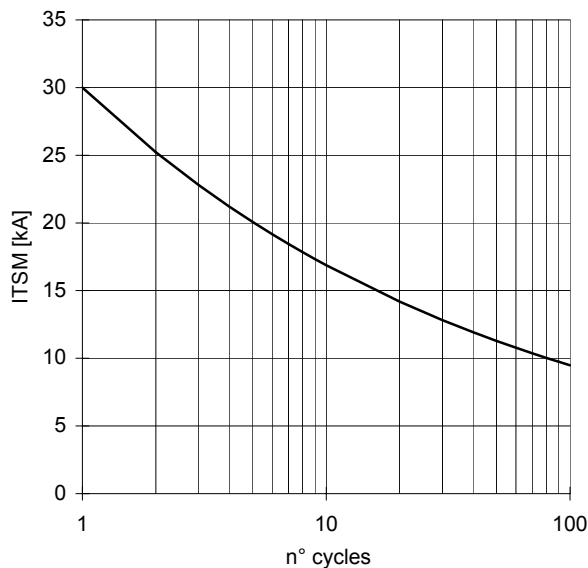


TARGET SPECIFICATION feb 04 - ISSUE : 1

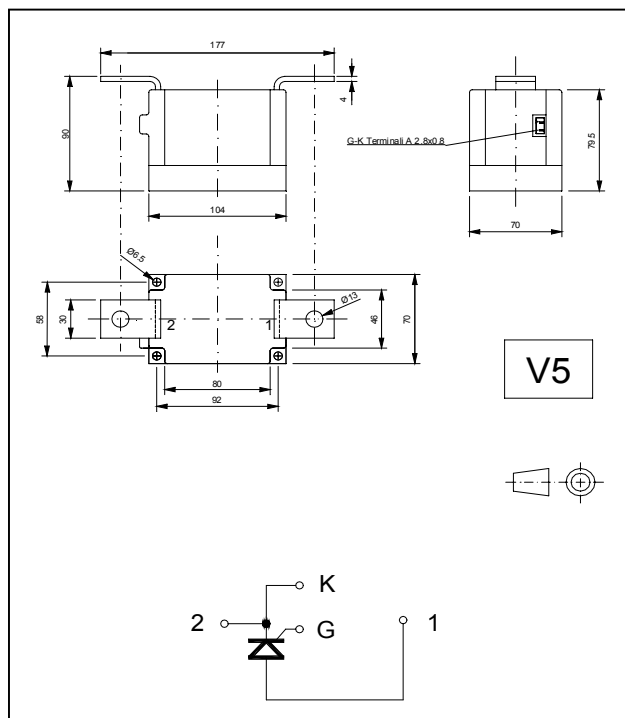
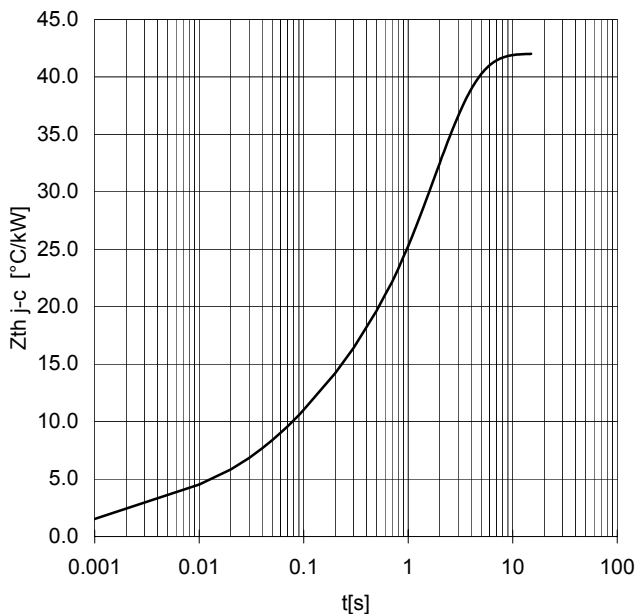
ON-STATE CHARACTERISTIC  
T<sub>j</sub> = 125 °C



SURGE CHARACTERISTIC  
T<sub>j</sub> = 125 °C



TRANSIENT THERMAL IMPEDANCE



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 (symbols over shaded background) and characteristics is reported.

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