

GATE TURN-OFF THYRISTOR

ATG646

Repetitive voltage up to	2500 V
Mean on-state current	801 A
Controllable on-state current	2000 A
Surge on-state current	16 kA

TARGET SPECIFICATION

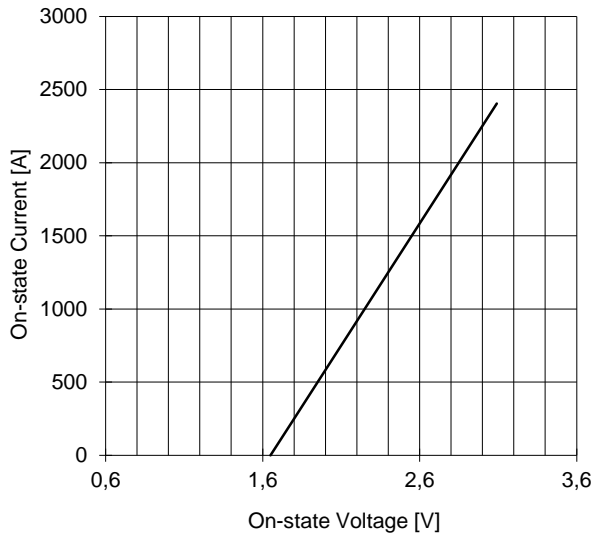
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Symbol	Characteristic	Conditions	Tj °C	Value			Unit
BLOCKING							
V _{DRM}	Repetitive peak off-state voltage		125	2500			V
V _{RRM}	Repetitive peak reverse voltage			17			V
I _{DRM}	Repetitive peak off-state current	V _D =V _{DRM}		50			mA
I _{RRM}	Repetitive peak reverse current	V _R =V _{RRM}		50			mA
(dv/dt) _{crit}	Critical rate of rise of off-state voltage, min	Linear ramp up to 66% V _{DRM} , shorted G-K		1000			V/μS
CONDUCTING							
I _{T(AV)}	Mean on-state current	180° sin, 50 Hz, Th=75°C, double side cooled		801			A
I _{TSM}	Surge on-state current	sine wave, 10 ms, no reverse voltage	125	16,0			kA
I ² t	I ² t for fusing coordination	10ms, no reverse voltage		1620x1 E3			A ² S ³
V _T	On-state voltage	On-state current = 2000 A	125	2,8			V
V _{T(TO)}	Threshold voltage		125	1,65			V
r _T	On-state slope resistance			0,60			mohm
SWITCHING ON							
t _{gt}	Gate controlled turn on time	I _T = 2000A; di/dt = 300A/μS	125	5			μS
t _d	Delay time	I _{GM} = 30A; di _{GR} /dt = 30A/μS		1,2			μS
E _{on}	Turn-on switching energy	V _D = 1500V, C _S = 2μF; R _S = 10 ohm		1,19			J
(di/dt) _{crit}	Critical rate of rise of on-state current	I _T = 2000A, I _{GM} > 30A, di _{GR} /dt = 30A/μS		125	300		
SWITCHING OFF							
I _{TCM}	Controllable peak on-state current		125	2000			A
t _{gq}	Gate controlled turn-off time	I _{TC} = I _{TCM} , V _{DM} = 2500V		19			μS
t _s	Storage time	C _S = 2μF, di _{GR} /dt = 40 A/μS		17			μS
E _{off}	Turn-off switching energy	L _s = 0.20μH		4			J
I _{RG}	Turn-off reverse gate current			650			A
TRIGGERING							
V _{GT}	Gate trigger voltage	V _D =24V	25	1,0			V
I _{GT}	Gate trigger current	I _T = 100A	25	3,0			A
V _{RGM}	Peak reverse gate voltage		25	16			V
I _{RGM}	Peak reverse leakage gate current	V _{RG} = V _{RGM}	25	50			mA
DISSIPATION							
R _{th(j-h)}	Thermal resistance junction to heatsink d.c.	Double side cooled		22			°C/kW
T _{vj}	Virtual junction temperature			125			°C
T _{stg}	Storage temperature			-40		125	°C
MOUNTING							
W	Weight			800			g
F	Mounting force			17.0	/	24.0	kN

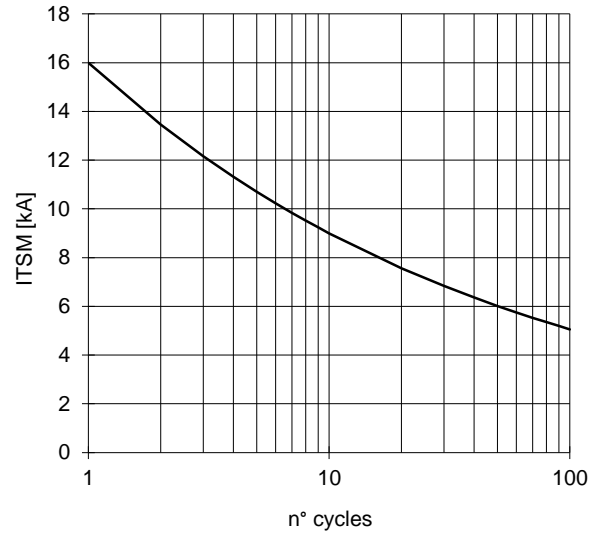
ORDERING INFORMATION : ATG646 S 25

standard specification VDRM/100

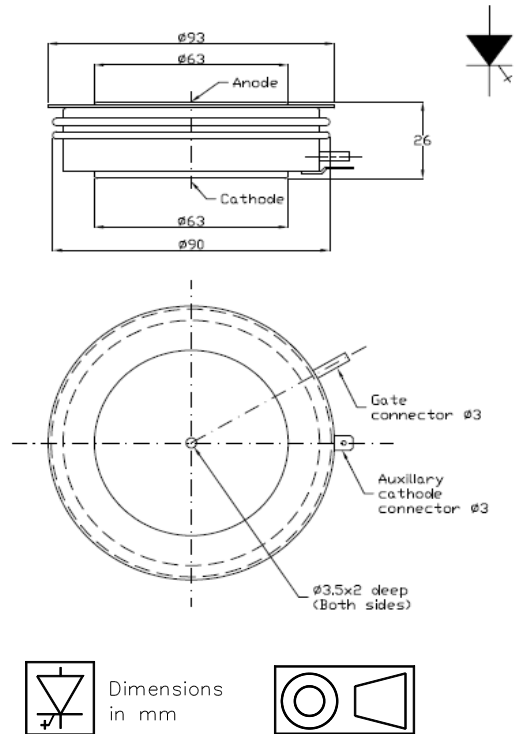
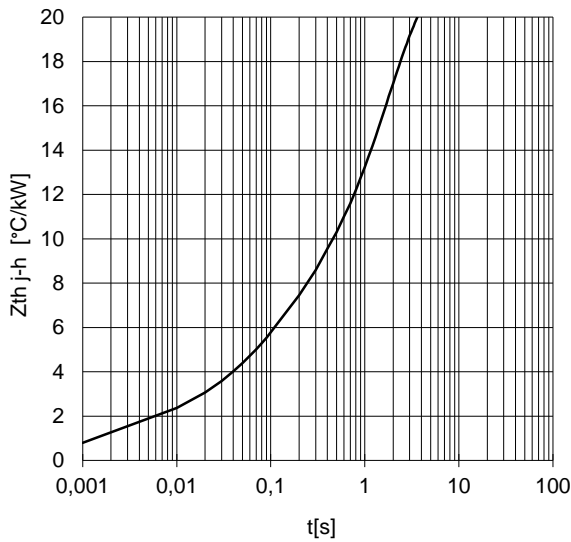
ON-STATE CHARACTERISTIC
T_j = 125 °C



SURGE CHARACTERISTIC
T_j = 125 °C



TRANSIENT THERMAL IMPEDANCE
DOUBLE SIDE COOLED



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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