

Thyristors type T83 are of modern design with pressure contacts, high alumina ceramic insulator and cold-welding encapsulation. Designed for use in power electronic circuits and equipment under normal operating conditions.

KEY PARAMETERS

U_{DRM}, U_{RRM}	up to 2600 V
$I_{T(AV)}$	630 A
I_{TSM}	10200 A
du/dt^*	1000 V/μs
di/dt	200 A/μs

* maximum (non standard) value

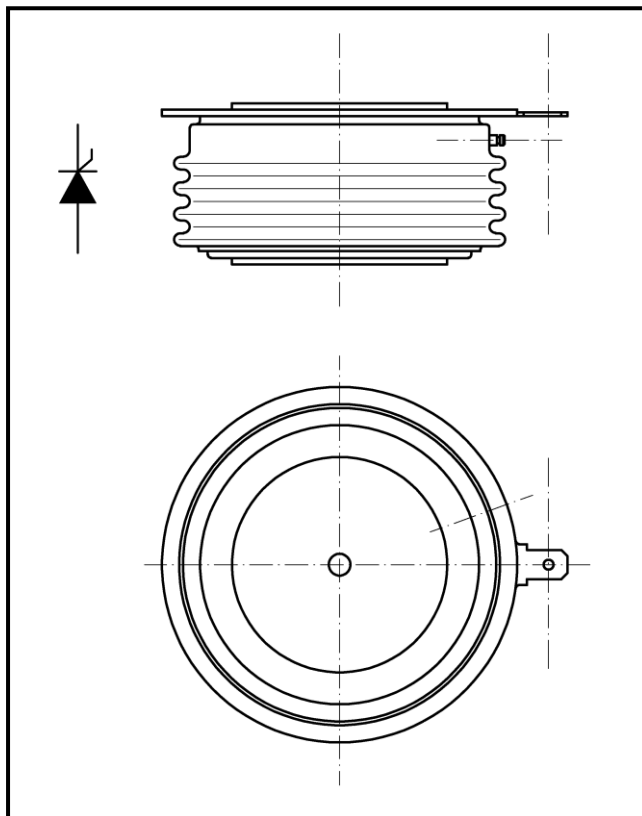
FEATURES

- all diffused design
- high current capabilities
- high surge current capabilities
- high rates voltages
- high du/dt
- low gate current
- dynamic gate
- low thermal impedance
- tested according to IEC standards
- compact size and small weight

APPLICATION

- High Power Drives
- DC Motor Control
- High Voltage Power Supplies

Designed for use in high power industrial and commercial electronic circuits and equipment where high currents are encountered and high reliability is essential.



Outline type code: JEDEC TO-200AC
See package details for further information

T83-630

Phase Control Thyristor



KKT83630, February 2009 version

ORDERING INFORMATION

When ordering please refer to device code builder presented below.
Please use the complete part number when ordering, quote or in any future correspondence relating to your order.

T83-630-□□

└── voltage class (hundreds of volts)

This is standard device, with no dynamic parameters specified and standard accessory set.
Please refer to **Electrical Parameters** if specific dynamic demands have to be met.
Those information, as well as any other concerning non-standard accessories e.g. custom leads length or lead terminal connector type should be included in the order.

ELECTRICAL PARAMETERS

Voltage ratings

Voltage class	U_{DRM}, U_{RRM}	U_{DSM}, U_{RSM}	I_{DRM}, I_{RRM}
	V	V	mA
06	600	700	50
08	800	900	
10	1000	1100	
12	1200	1300	
14	1400	1500	
16	1600	1700	
18	1800	1900	
20	2000	2000	
22	2200	2300	
24	2400	2500	
26	2600	2700	

Zakłady Elektronowe LAMINA S.A.
Puławska 34
PL-05-500 Piaseczno
POLAND

Tel.: +48-22-7572731
Tel.: +48-22-3989409
Fax.: +48-22-3989407
e-mail: sekretariat@lamina.com.pl
www.lamina.com.pl

T83-630

Phase Control Thyristor



Zakłady Elektronowe
LAMINA S.A.

KKT83630, February 2009 version

dU/dt group codes

Group code	du/dt
	V/μs
0	no specified value
5	320
6	500
7	1000

Electrical properties

Parameter	Unit	Test conditions	Value for
Average on-state current	$I_{T(AV)}$	A	630
Case temperature	T_C	°C	70
RMS on state current	$I_{T(RMS)}$	A	990
Surge on-state current	I_{TSM}	A	$T_j=125^\circ\text{C}$, $U_R=U_{RRM}$, $t_p=10\text{ms}$
I^2t – value	I^2t	kA ² s	520
On-state voltage max.	U_{TM}	V	$T_j=25^\circ\text{C}$, $I_{TM}=1500\text{A}$
Threshold voltage	$U_{T(TO)}$	V	1,25
Slope resistance	r_T	mΩ	0,80
Latching current	I_l	mA	$T_j=25^\circ\text{C}$, $U_D=12\text{V}$
Holding current	I_H	mA	$T_j=25^\circ\text{C}$, $U_D=12\text{V}$
Circuit commutated turn-off time (typical)	t_q (typ)	μs	$T_j=125^\circ\text{C}$, $I_{TM}=250\text{A}$, $di_R/dt=25\text{A}/\mu\text{s}$, $du/dt=20\text{V}/\mu\text{s}$, $U_D=0,67U_{DRM}$, $U_{RM}=100\text{V}$
Turn-On time (typical)	t_{on}	μs	$I_{TM}=100\text{A}$, $U_{DM}=100\text{V}$
Rate of rise of on-state current-repetitive	di/dt	A/μs	$T_j=125^\circ\text{C}$, $I_{TM}=3I_{T(AV)}$, $U_D=0,67U_{DRM}$, $f=50\text{Hz}$, $I_{GM}=1\text{A}$, $di_G/dt=1\text{A}/\mu\text{s}$
Critical rate of raise of off-state voltage	du/dt	V/μs	$T_j=125^\circ\text{C}$, $U_D=0,67U_{DRM}$, 320 – 1000 (see du/dt group codes)
Gate current to trigger	I_{GT}	mA	$T_j=25^\circ\text{C}$, $U_D=12\text{V}$
Gate voltage to trigger	U_{GT}	V	$T_j=25^\circ\text{C}$, $U_D=12\text{V}$

Thermal properties

Parameter	Unit	Test conditions	Value
Thermal resistance, junction to case	R_{thJC}	°C/W	two sided, DC
Thermal resistance, case to heatsink	R_{thCS}	°C/W	two sided
Operating junction temperature	$T_{jmin} \dots T_{jmax}$	°C	-40...+125
Storage temperature	T_{stg}	°C	-40...+125

Zakłady Elektronowe LAMINA S.A.
Puławska 34
PL-05-500 Piaseczno
POLAND

Tel.: +48-22-7572731
Tel.: +48-22-3989409
Fax.: +48-22-3989407
e-mail: sekretariat@lamina.com.pl
www.lamina.com.pl

T83-630

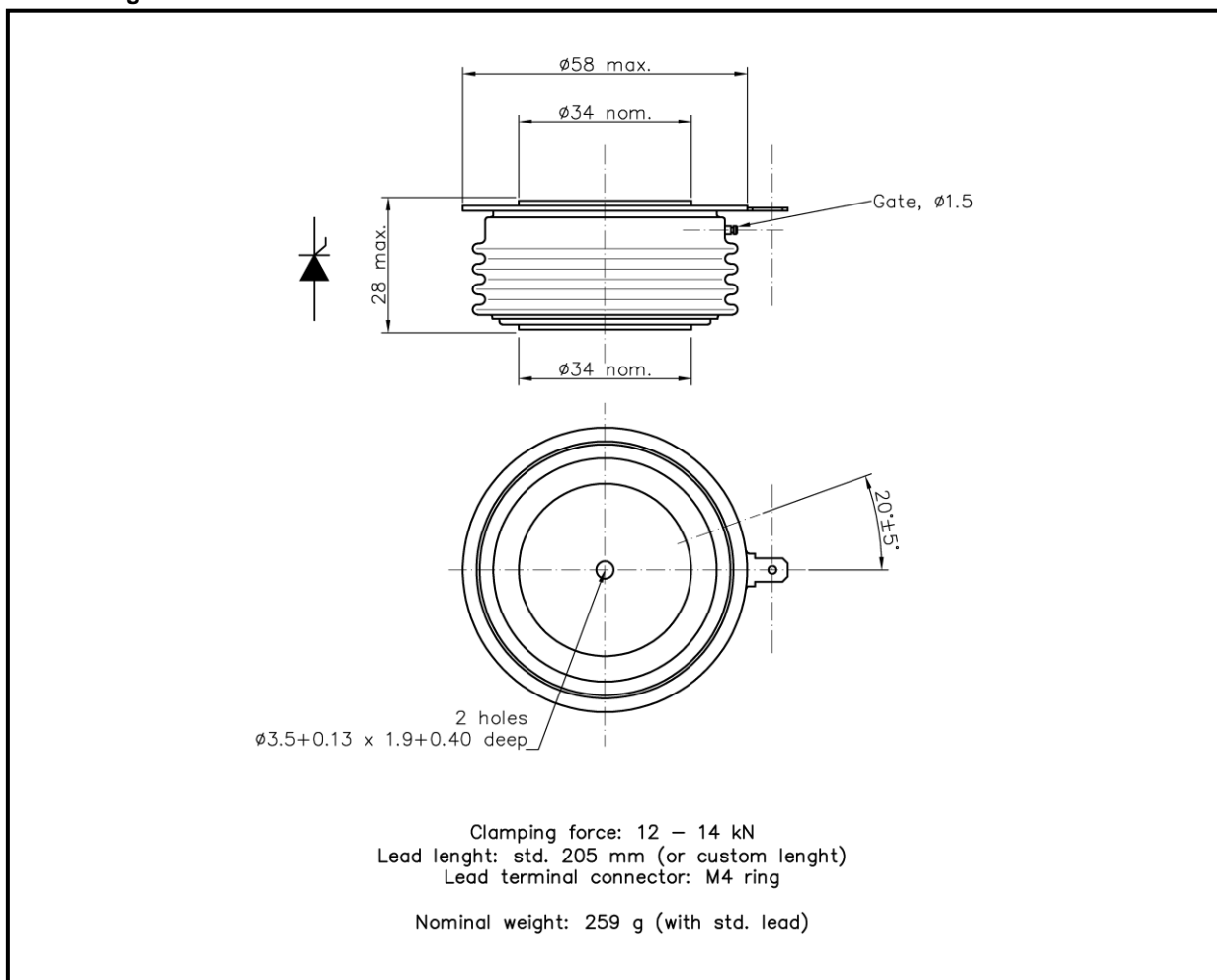
Phase Control Thyristor

KKT83630, February 2009 version

Mechanical properties

Parameter		Unit	Value
Clamping force	F_M	kN	12,0 ... 14,0
Weight	m	g	260

Package details



For further package information, please contact Sales & Marketing Department. All dimensions in mm, unless stated otherwise.
Do not scale.

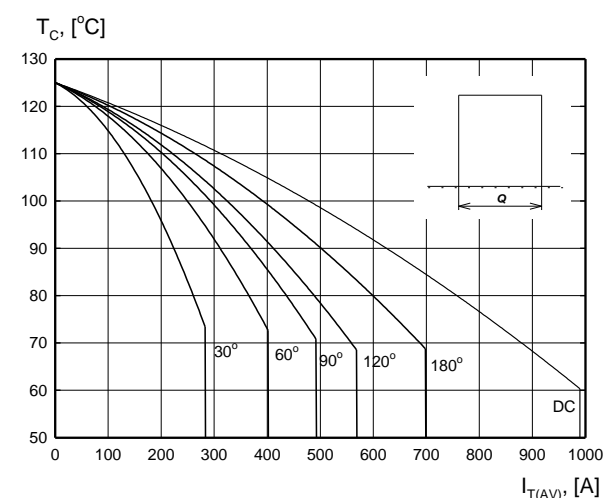
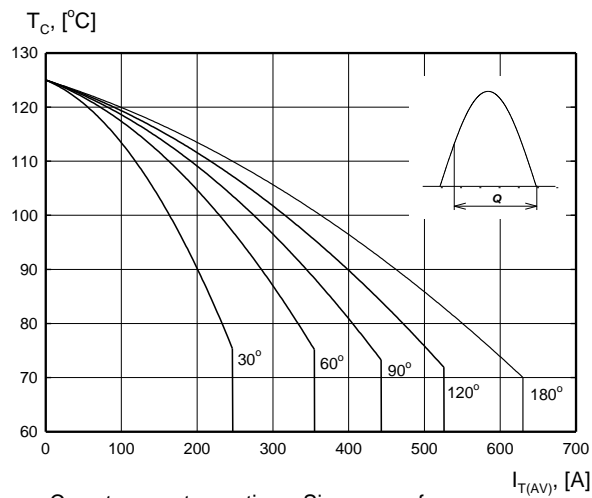
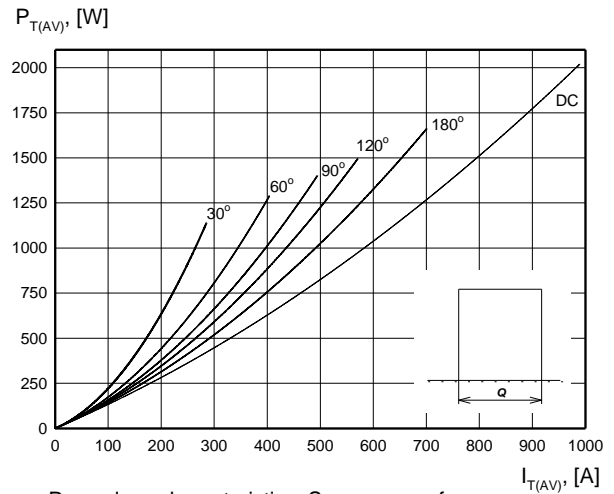
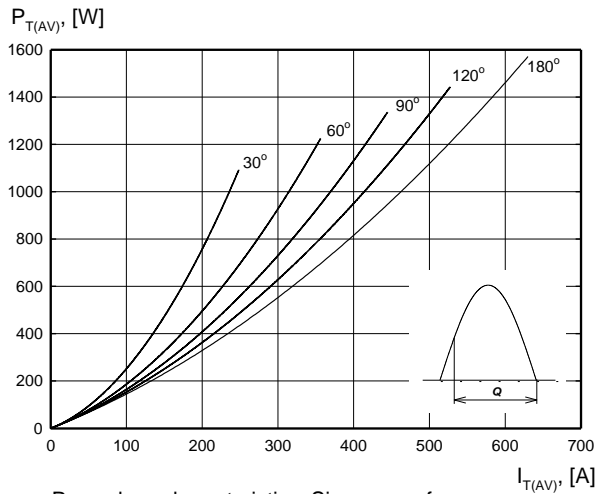
T83-630

Phase Control Thyristor



KKT83630, February 2009 version

CHARACTERISTICS



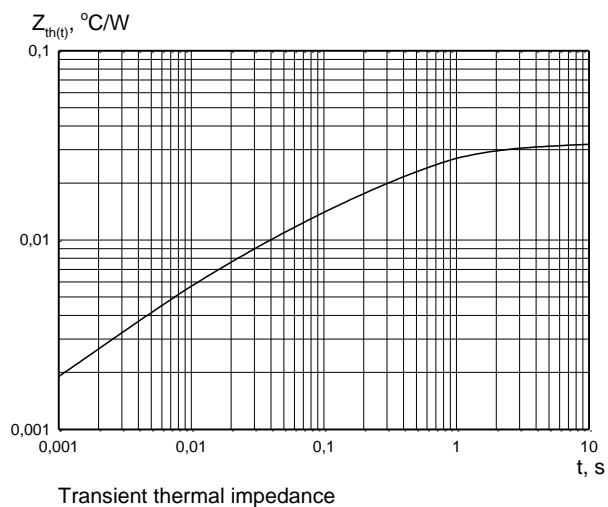
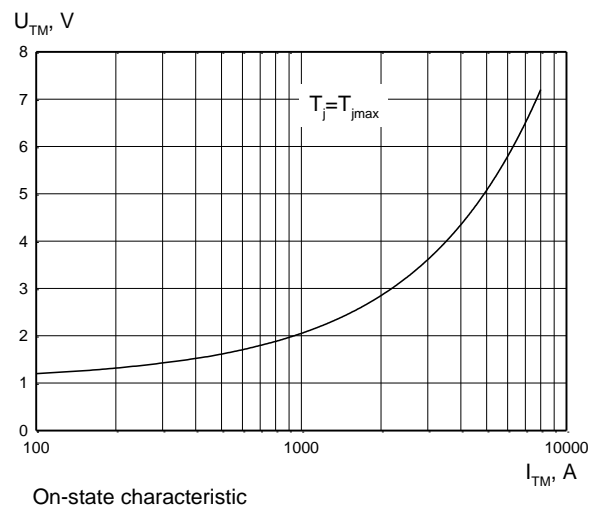
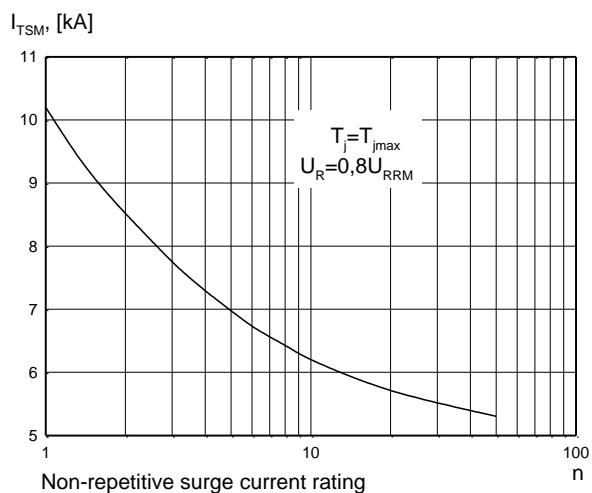
Zakłady Elektronowe LAMINA S.A.
 Puławska 34
 PL-05-500 Piaseczno
 POLAND

Tel.: +48-22-7572731
 Tel.: +48-22-3989409
 Fax.: +48-22-3989407
 e-mail: sekretariat@lamina.com.pl
 www.lamina.com.pl

T83-630

Phase Control Thyristor

KKT83630, February 2009 version

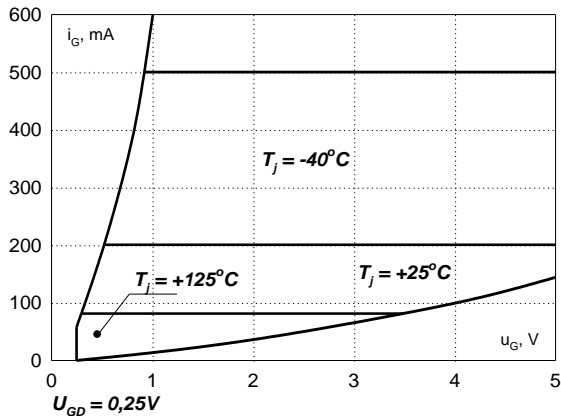


T83-630

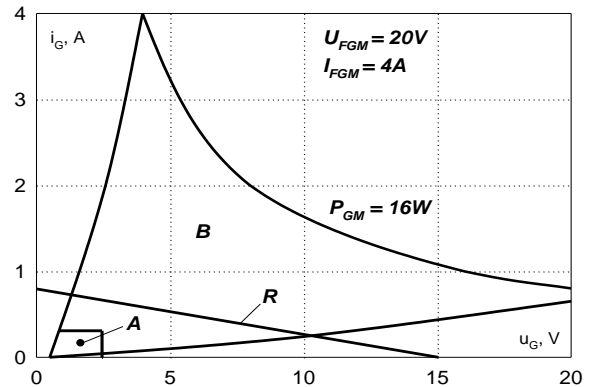
Phase Control Thyristor

KKT83630, February 2009 version

Gate characteristics



Gate characteristic. Possible trigger area.



Gate characteristic.
A - possible trigger area
B - permitted gate pulse forcing area
R - recommended gate drive load line

HEATSINKS

LAMINA S.I. has its own proprietary range of extruded aluminium heatsinks designed to optimise the performance of our semiconductors with natural and forced air flow. High efficiency water cooled copper heatsinks are also available.

DEVICE CLAMPS

Disc devices require the correct clamping force to ensure their best operation. LAMINA S.I. offers a wide selection of clamps to suit all of our manufactured devices.

POWER ASSEMBLY CAPABILITY

LAMINA S.I. provides a support for those customers requiring more than a basic semiconductor and offers precisely assembled Power Blocks according to factory or customer standards.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [SCRs](#) category:

Click to view products by [KUBARA LAMINA](#) manufacturer:

Other Similar products are found below :

[NTE5428](#) [T1500N16TOF VT](#) [T660N22TOF](#) [T720N18TOF](#) [T880N14TOF](#) [T880N16TOF](#) [TT162N16KOF-A](#) [TT162N16KOF-K](#)
[TT330N16AOF](#) [VS-22RIA20](#) [VS-2N685](#) [057219R](#) [T1190N16TOF VT](#) [T1220N22TOF VT](#) [T201N70TOH](#) [T700N22TOF](#) [TT250N12KOF-K](#)
[VS-110RKI40](#) [NTE5427](#) [NTE5442](#) [T2160N28TOF VT](#) [TT251N16KOF-K](#) [VS-22RIA100](#) [VS-16RIA40](#) [TD250N16KOF-A](#) [VS-ST110S16P0](#)
[T930N36TOF VT](#) [T2160N24TOF VT](#) [T1190N18TOF VT](#) [T1590N28TOF VT](#) [2N1776A](#) [T590N14TOF](#) [NTE5375](#) [NTE5460](#) [NTE5481](#)
[NTE5504](#) [NTE5512](#) [NTE5514](#) [NTE5518](#) [NTE5519](#) [NTE5529](#) [NTE5553](#) [NTE5555](#) [NTE5557](#) [NTE5567](#) [NTE5570](#) [NTE5572](#) [NTE5574](#)
[NTE5576](#) [NTE5579](#)