

Thyristors type P95 are of modern design with pressure contacts, high alumina ceramic insulator and cold-welding encapsulation. Designed for use in high frequency power electronic circuits and equipment under normal operating conditions.

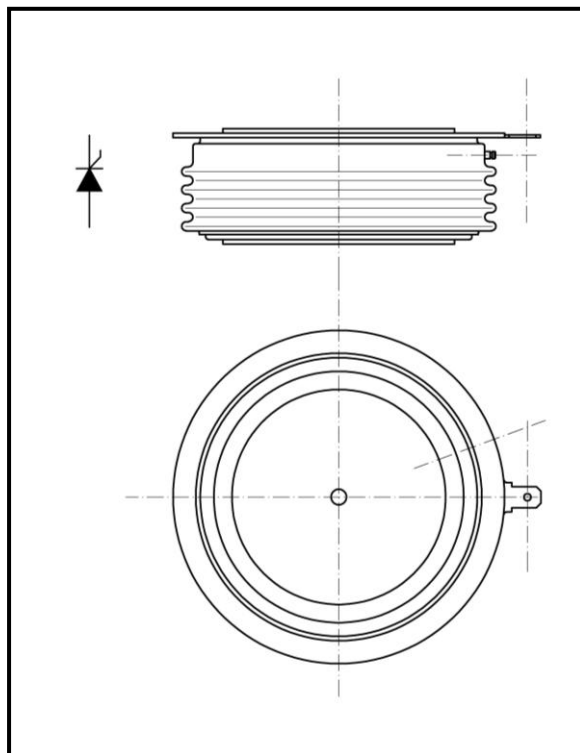
KEY PARAMETERS

U_{DRM}, U_{RRM}	up to 1800 V
$I_{T(AV)}$	900 A
I_{TSM}	15000 A
du/dt^*	1000 V/μs
di/dt	300 A/μs

* maximum (non standard) value

FEATURES

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



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

APPLICATION

- High Frequency Inverters
- Induction Heating Inverters
- Uninterruptable Power Supplies

Designed for use in high power industrial and commercial power electronic circuits and equipment where high currents are encountered, low turn-off values are required and high reliability is essential.

P95-900

Inverter Type Thyristor



KKP95900, July 2005 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.

P95-900-□□

└── 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
14	1400	1300	100
16	1600	1700	
18	1800	1900	

dU/dt group codes

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

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

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Electrical properties

Parameter		Unit	Test conditions	Value
Average on-state current @ case temperature	$I_{T(AV)}$	A		900
	T_c	°C		75
RMS on-state current	$I_{T(RMS)}$	A		1400
Surge current	I_{TSM}	A	$T_j=125^\circ\text{C}$, $U_R=0,8U_{RRM}$, $t_p=10\text{ms}$	15000
I^2t – value	I^2t	kA^2s		1125
On-state voltage drop max.	U_{TM}	V	$T_j=25^\circ\text{C}$, $I_{TM}=1500\text{A}$	1,85
Threshold voltage	$U_{T(T0)}$	V		1,37
Slope resistance	r_T	$\text{m}\Omega$		0,37
Latching current	I_l	mA	$T_j=25^\circ\text{C}$, $U_D=12\text{V}$	1000
Holding current	I_H	mA	$T_j=25^\circ\text{C}$, $U_D=12\text{V}$	300
Circuit commutated turn-off time	t_q	μs	$T_j=125^\circ\text{C}$, $I_{TM}=250\text{A}$, $di_R/dt=25\text{A}/\mu\text{s}$, $du/dt=20\text{V}/\mu\text{s}$, $U_D=0,67U_{DRM}$, $U_{RM}=100\text{V}$	63
Turn-On time (typical)	t_{on}	μs	$I_{TM}=100\text{A}$, $U_{DM}=100\text{V}$	5
Rate of rise of on-state current-repetitive	di/dt	$\text{A}/\mu\text{s}$	$T_j=125^\circ\text{C}$, $I_{TM}=3I_{T(AV)}$, $U_D=0,67U_{DRM}$, $f=50\text{Hz}$, $I_{GM}=1\text{A}$, $di_G/dt=1\text{A}/\mu\text{s}$	300
Critical rate of raise of off-state voltage	du/dt	$\text{V}/\mu\text{s}$	$T_j=125^\circ\text{C}$, $U_D=0,67U_{DRM}$	320 – 1000 (see du/dt group codes)
Gate current to trigger	I_{GT}	mA	$T_j=25^\circ\text{C}$, $U_D=12\text{V}$	200
Gate voltage to trigger	U_{GT}	V	$T_j=25^\circ\text{C}$, $U_D=12\text{V}$	3

Thermal properties

Parameter		Unit	Test conditions	Value
Thermal resistance, junction to case	R_{thJC}	°C/W	two sided, DC	0,023
Thermal resistance, case to heatsink	R_{thCS}	°C/W	two sided	0,010
Operating junction temperature	$T_{jmin} \dots T_{jmax}$	°C		-40...+125
Storage temperature	T_{stg}	°C		-40...+125

Mechanical properties

Parameter		Unit	Value
Clamping force	F_M	kN	22,5 ... 25,0
Weight	m	g	480

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PL-05-500 Piaseczno
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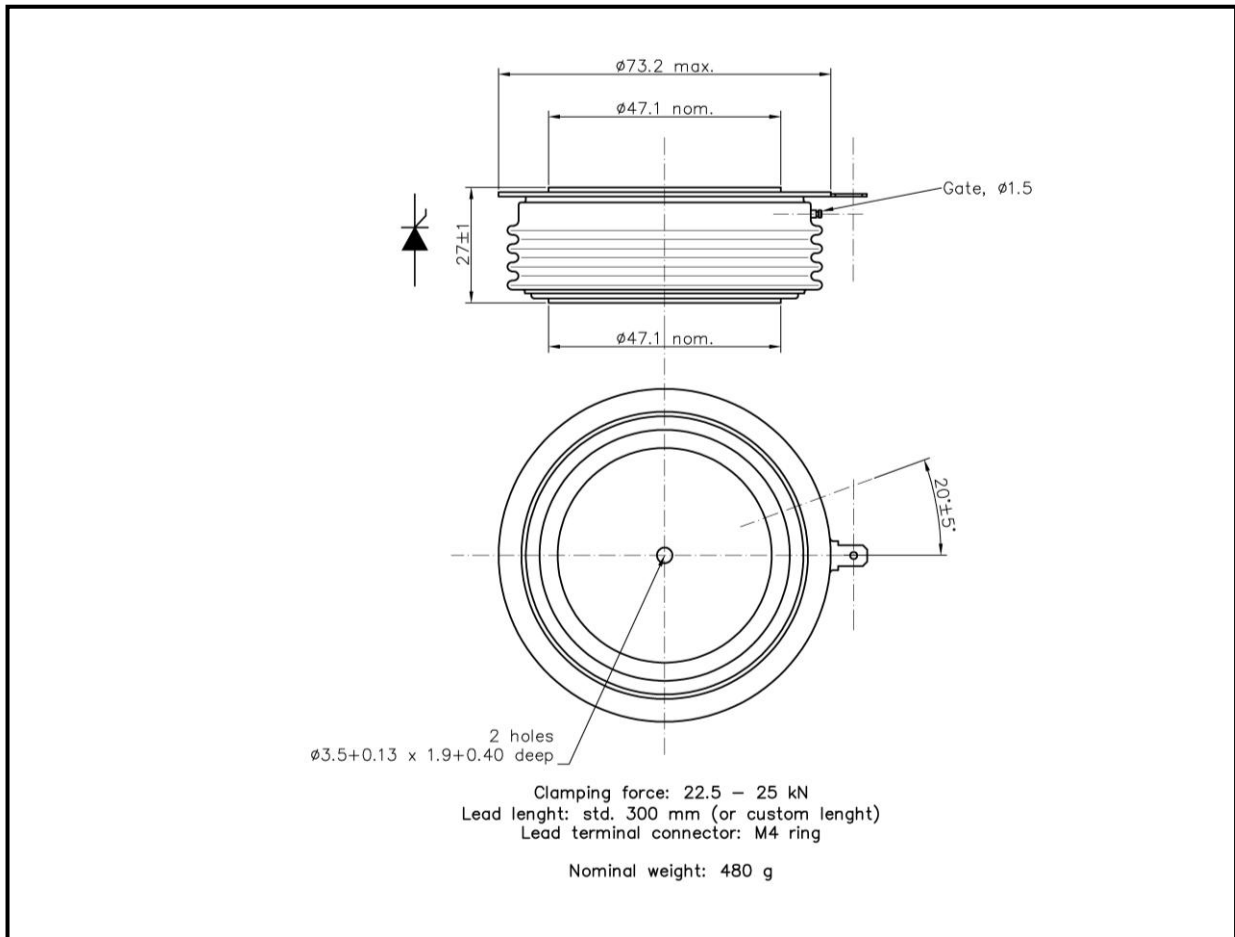
Tel.: +48-22-7572731
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Fax.: +48-22-3989407
e-mail: sekretariat@lamina.com.pl
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Package details



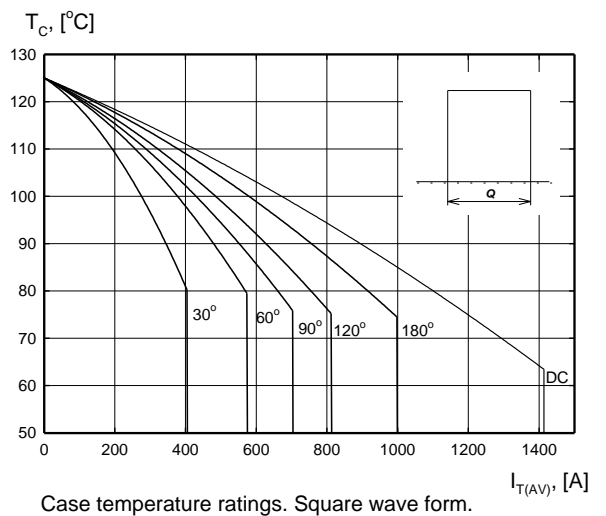
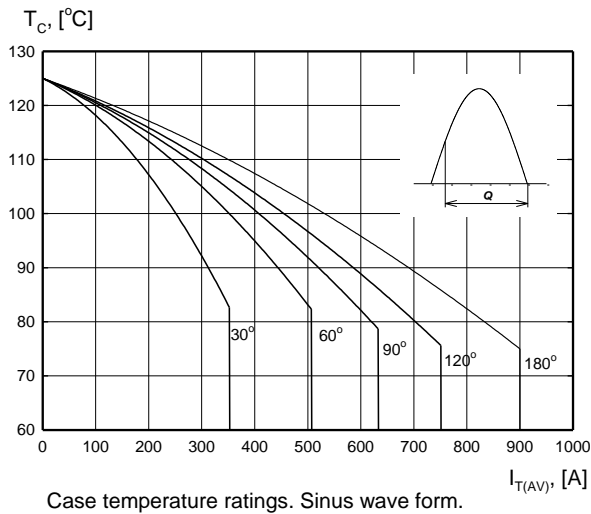
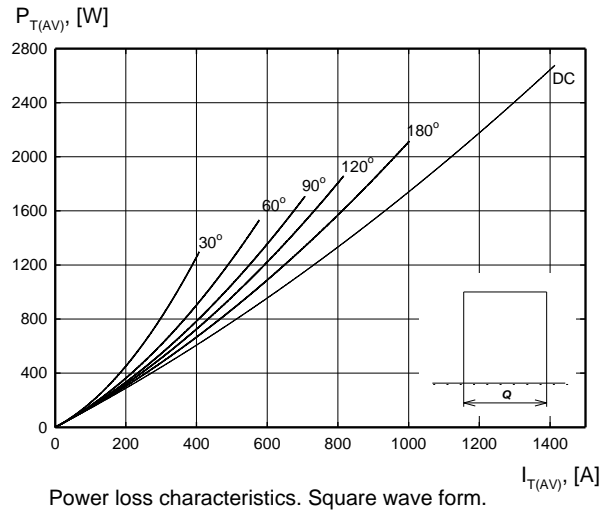
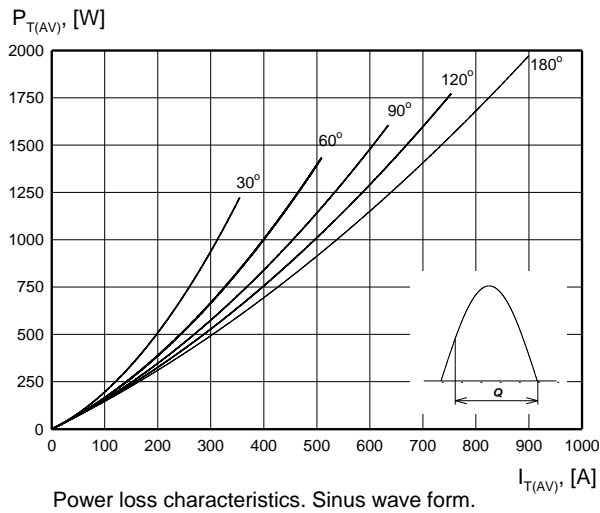
For further package information, please contact Sales & Marketing Department. All dimensions in mm, unless stated otherwise.
Do not scale.

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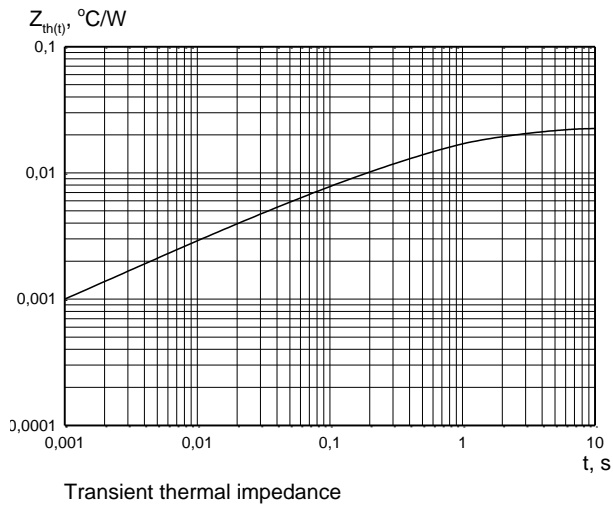
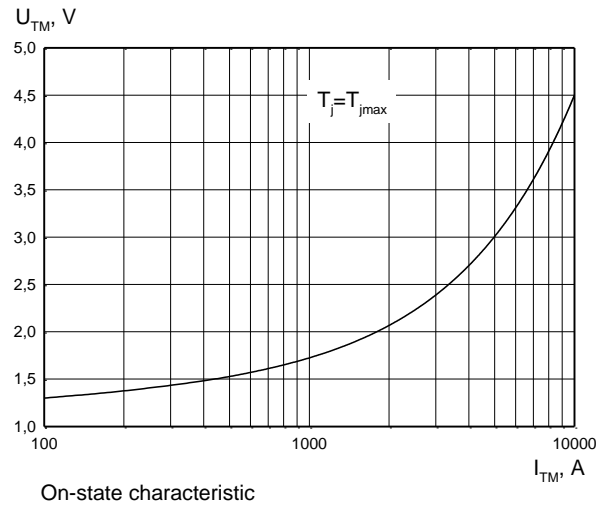
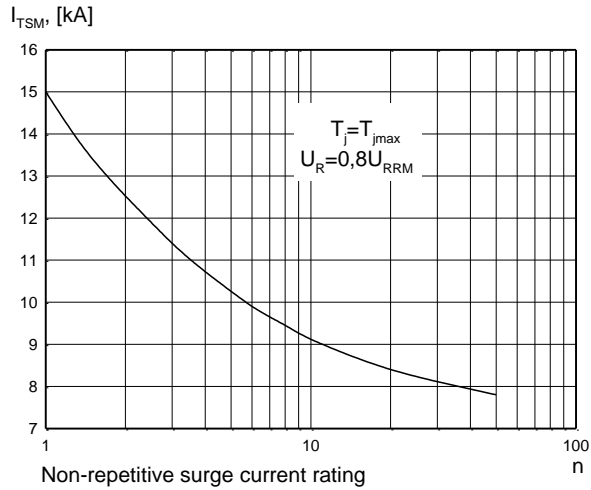
CHARACTERISTICS



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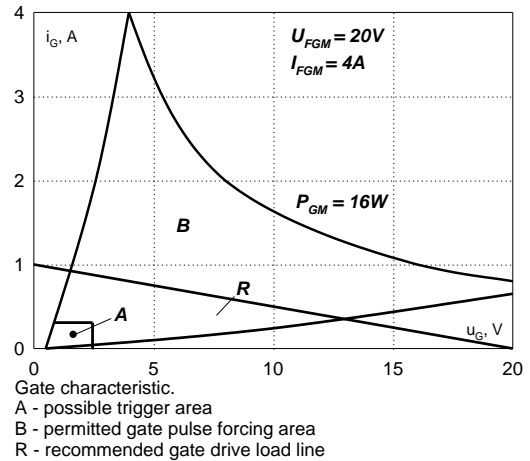
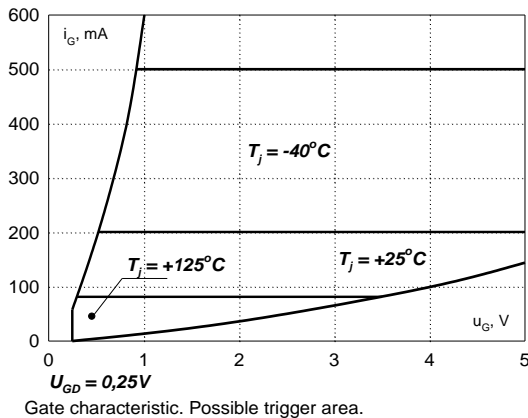


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Gate characteristics



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.