

## T75-750-XX

### Phase Control Thyristor

Thyristors type T75 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

$U_{DRM}, U_{RRM}$	<b>up to 1600 V</b>
$I_{T(AV)}$	<b>750 A</b>
$I_{TSM}$	<b>9500 A</b>
$du/dt^*$	<b>1000 V/<math>\mu</math>s</b>
$di/dt$	<b>150 A/<math>\mu</math>s</b>

\* maximum (non standard) value

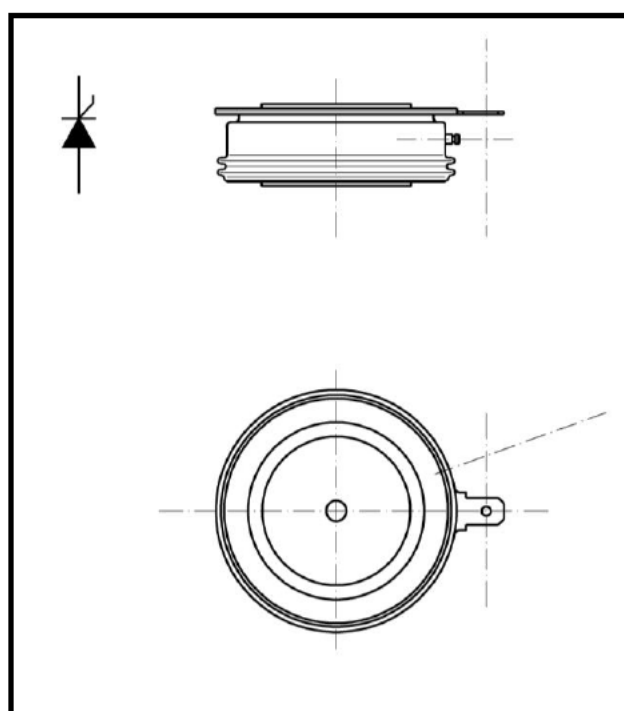
#### FEATURES

- 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-200AB**  
(E-puk)

See package details for further information

## 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.

**T75-750-□□**



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 lenght 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
04	400	500	30
06	600	700	
08	800	900	
10	1000	1100	
12	1200	1300	
14	1400	1500	
16	1600	1700	

### 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
Average on-state current	$I_{T(AV)}$	A		750
Case temperature	$T_c$	°C		65
RMS on-state current	$I_{T(RMS)}$	A		1180
Surge on-state current	$I_{TSM}$	A	$T_j=125^\circ\text{C}$ , $U_R=0,8U_{RRM}$ , $t_p=10\text{ms}$	9500
$I^2t$ – value	$I^2t$	$\text{kA}^2\text{s}$		450
On-state voltage max.	$U_{TM}$	V	$T_j=25^\circ\text{C}$ , $I_{TM}=1500\text{A}$	1,70
Threshold voltage	$U_{T(T0)}$	V		0,89
Slope resistance	$r_T$	$\text{m}\Omega$		0,48
Latching current	$I_l$	mA	$T_j=25^\circ\text{C}$ , $U_D=12\text{V}$	800
Holding current	$I_H$	mA	$T_j=25^\circ\text{C}$ , $U_D=12\text{V}$	200
Circuit commutated turn-off time (typical)	$t_q$ (typ)	$\mu\text{s}$	$T_j=125^\circ\text{C}$ , $I_{TM}=250\text{A}$ , $di_R/dt=25\text{A}/\mu\text{s}$ , $du/dt=20\text{V}/\mu\text{s}$ , $U_D=0,67U_{DRM}$ , $U_{RM}=100\text{V}$	150
Turn-On time (typical)	$t_{on}$	$\mu\text{s}$	$I_{TM}=100\text{A}$ , $U_{DM}=100\text{V}$	7
Rate of rise of on-state current-repetitive	$di/dt$	$\text{A}/\mu\text{s}$	$T_j=125^\circ\text{C}$ , $I_{TM}=3I_{T(AV)}$ , $U_D=0,67U_{DRM}$ , $f=50\text{Hz}$ , $I_{GM}=1\text{A}$ , $di_G/dt=1\text{A}/\mu\text{s}$	150
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
Gate current to trigger	$I_{GT}$	mA	$T_j=25^\circ\text{C}$ , $U_D=12\text{V}$	150
Gate voltage to trigger	$U_{GT}$	V	$T_j=25^\circ\text{C}$ , $U_D=12\text{V}$	3

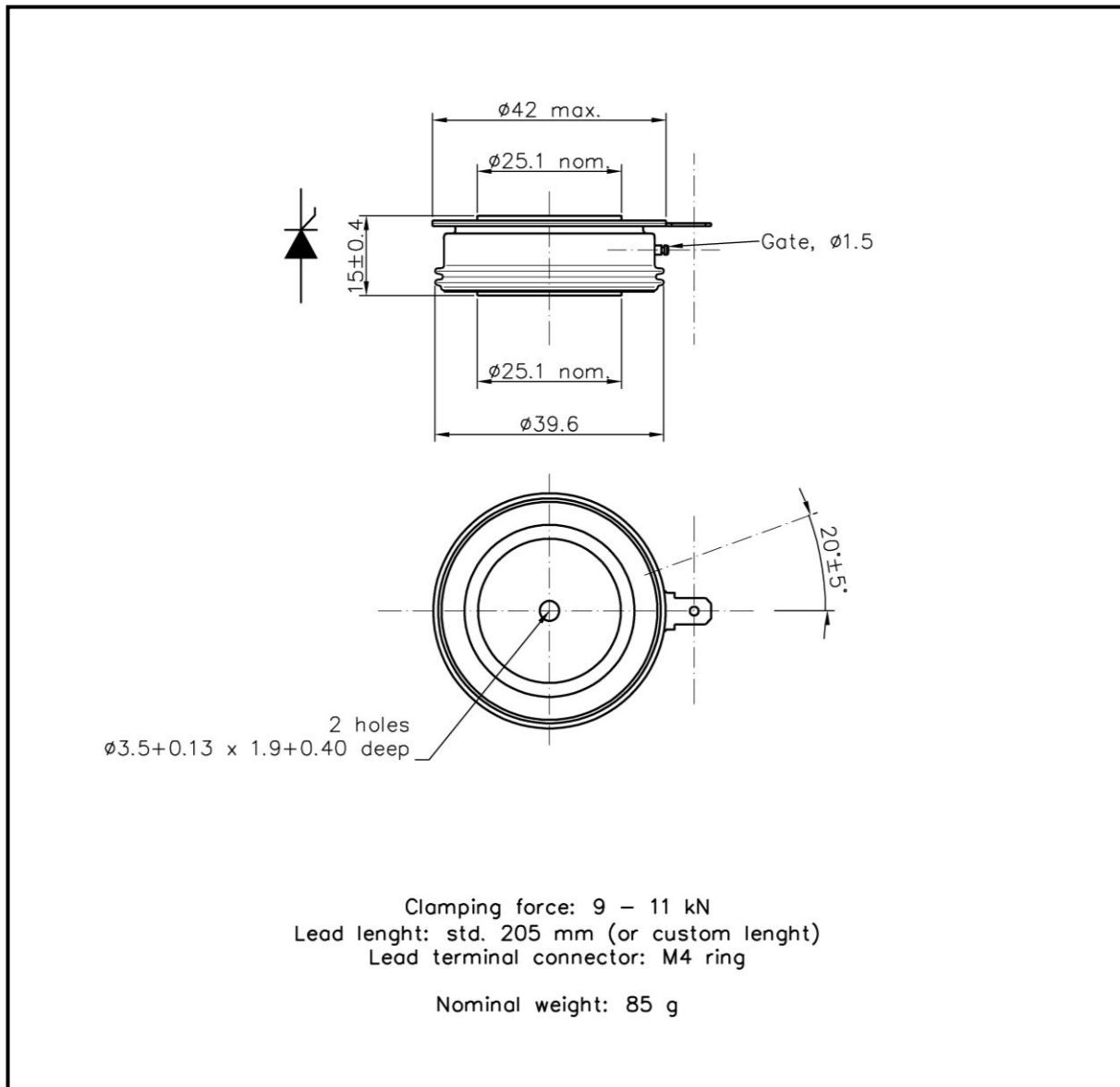
### Thermal properties

Parameter		Unit	Test conditions	Value
Thermal resistance, junction to case	$R_{thJC}$	°C/W	two sided, DC	0,04
Thermal resistance, case to heatsink	$R_{thCS}$	°C/W	two sided	0,020
Operating junction temperature	$T_{jmin} \dots T_{jmax}$	°C		-40...+125
Storage temperature	$T_{stg}$	°C		-40...+125

### Mechanical properties

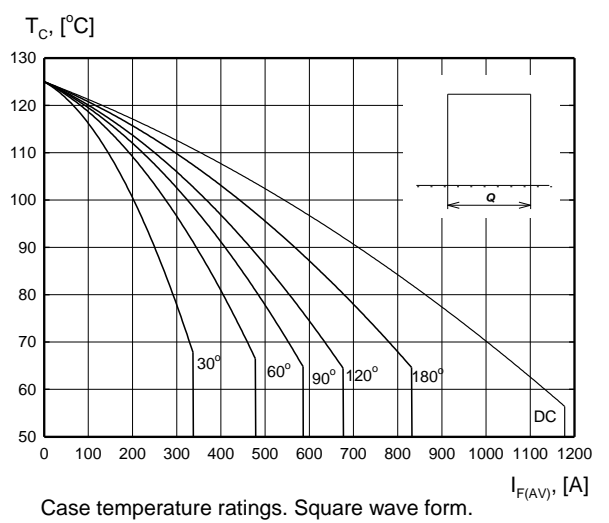
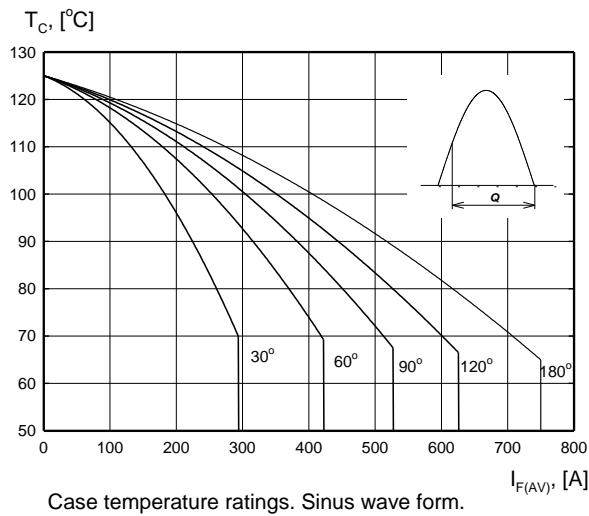
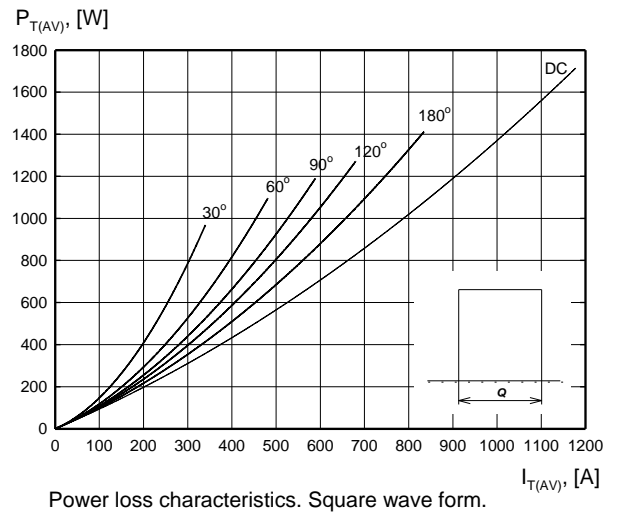
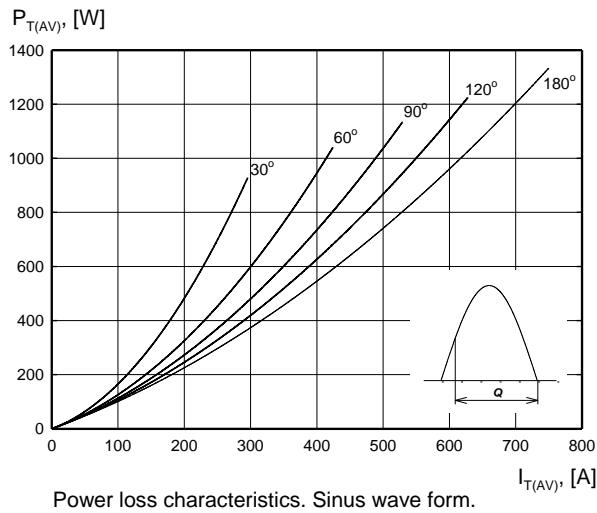
Parameter		Unit	Value
Clamping force	F	kN	9,0 ... 11,0
Weight	m	g	85

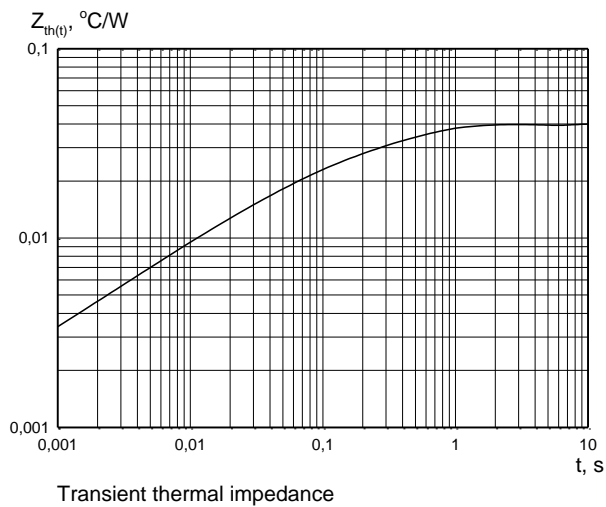
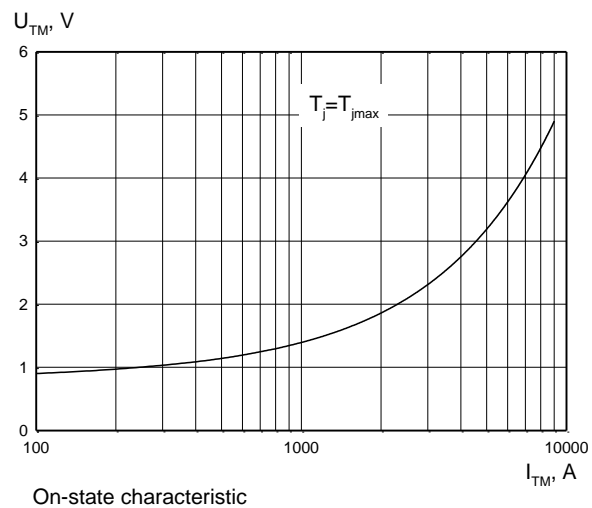
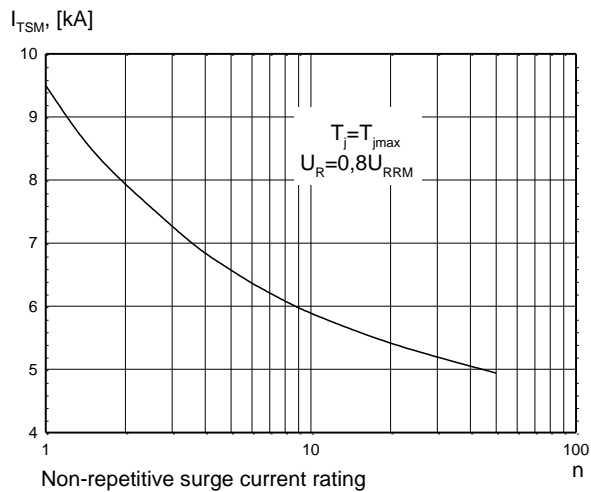
## Package details



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

## CHARACTERISTICS





## Gate characteristics

