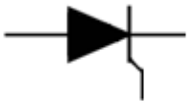
PHASE CONTROL THYRISTOR

T471-200

- V_{DRM} = **4000 V - 4400 V**
- V_{RRM} = **4000 V – 4400 V**
- $I_{T(AV)}$ = **200 A** (T_C = 80 °C)
- I_{TSM} = **4 kA** (T_j = 125 °C)



- Hermetic metal cases with ceramic
- Pressure contact design
- Threaded studs of ISO

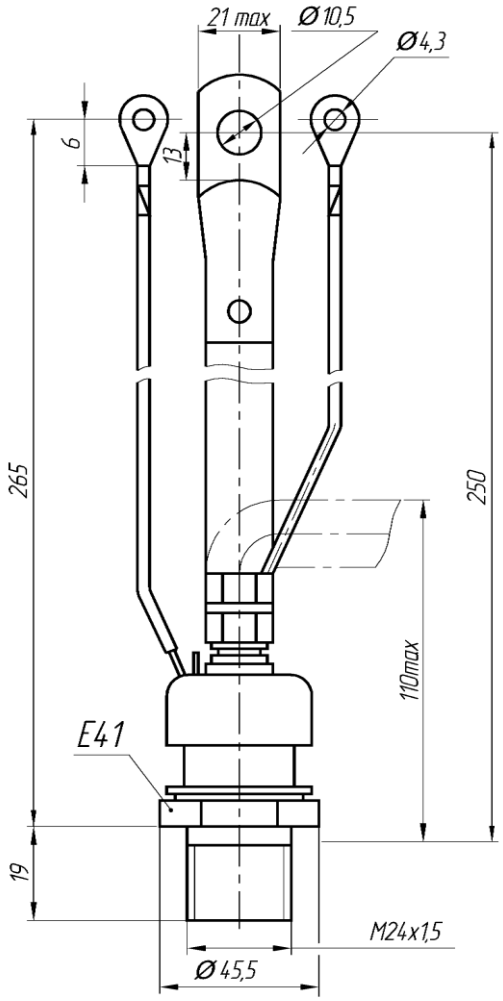
MAXIMUM RATED VALUES

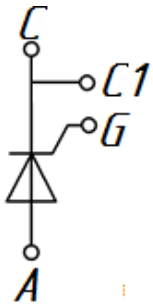
Parameter and conditions	Symbol	Values	Units
Repetitive peak off-state voltage / Repetitive peak reverse voltage, T_j = - 60 …+ 125 °C	V_{DRM} / V_{RRM}	4000-4400	V
Non-repetitive peak off-state voltage/ Non- repetitive peak reverse voltage, T_j = - 60 …+ 125 °C	V_{DSM} / V_{RSM}	4100-4500	
Repetitive peak off-state current/ Repetitive peak reverse current, T_j = 125 °C, V_D / V_R = V_{DRM} / V_{RRM}	I_{DRM} / I_{RRM}	50	mA
Maximum average on-state current, f = 50 Hz, T_C = 80 °C	$I_{T(AV)}$	200	A
RMS on-state current, T_C = 80 °C,	I_{TRMS}	314	
Surge non-repetitive current, T_j = 125 °C, t_p = 10 ms, V_R = 0	I_{TSM}	4	kA
Safety factor	I^2t	$0{,}08 \cdot 10^6$	A^2s
Critical rate of rise of on-state current, T_j =125 °C, I_T = 400 A, I_{FG} = 2 A, t_r = 0,5 µs, V = 0,67V_{DRM}, f = 50 Hz	$(di_T/dt)_{crit}$	200	A/µs
Critical rate of rise of off-state voltage T_j = 125 °C, V_D = 0,67V_{DRM}	$(dv_D/dt)_{crit}$	500-1000	V/µs
Gate power loss, DC	P_{GM}	4	W
Operation junction temperature range	T_j	- 60…+ 125	°C
Storage temperature range	T_{stg}	- 60…+ 50	

T471-200

ELECTRICAL CHARACTERISTICS					
Parameter and conditions	**Symbol**	**Values**			**Units**
		min	**typ**	**max**	
Maximum peak on-state voltage, T_j = 25 °C, I_T = 628 A	V_{TM}	-	-	2,46	V
On-state threshold voltage, T_j = 125 °C, I_T = 300 - 1000 A	$V_{(TO)}$	-	-	1,85	
On-state slope resistance, T_j = 125 °C, I_T = 300 - 1000 A	r_T	-	-	1,24	mΩ
Turn off-time, T_j = 125 °C, I_T = 200 A, di_T/dt = - 5 A/µs, $V_R \geq$ 100 V, $V_D = 0{,}67V_{DRM}$, dv_D/dt = 50 V/µs	t_q	-	400	-	µs
Holding current, T_j = 25 °C, V_D =12 V	I_H	-	-	500	mA
Gate trigger voltage, V_D = 12 V T_j = - 60 °C T_j = 25 °C T_j = 125 °C	V_{GT}	-	-	 5,0 2,5 2,0	V
Gate trigger current, V_D = 12 V T_j = - 60 °C T_j = 25 °C T_j = 125 °C	I_{GT}	-	-	 500 250 200	mA
Gate non-trigger voltage, T_j = 125 °C, $V_D = 0{,}67V_{DRM}$	V_{GD}	0,25	-	-	V
THERMAL PARAMETERS					
Thermal resistance junction to case	$R_{th(j-c)}$	-	-	0,09	°C/W
Thermal resistance case to heatsink	$R_{th(c-h)}$	-	-	0,03	
MECHANICAL PARAMETERS					
Weight	w	-	0,44	-	kg
Torque	M_d	25	-	35	Nm
Maximum acceleration (at nominal mounting torque)	a	-	-	50	m/s^2
Cathode-anode distance on insulator surface	D_S	-	20,5	-	mm

T471-200





C – Cathode, A – Anode, G –Gate, C1 – Auxiliary cathode

Device Outline Drawing

(dimensions in mm)

Type and length of gate interfaces G and C1 as required by the customer

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