

Thyristors type F71 are of modern design with internal spring loaded contacts, high alumina ceramic insulator and pressure welding encapsulation. Designed for use in power electronic circuits and equipment under normal operating conditions.

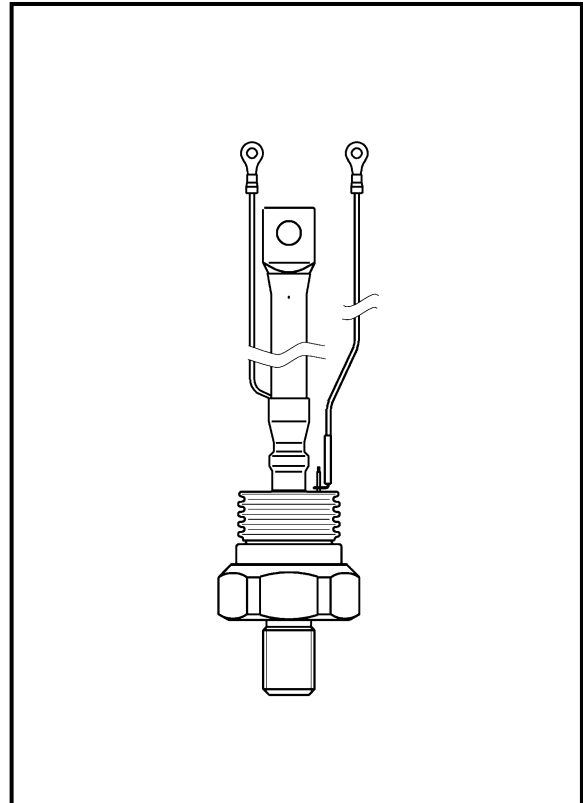
KEY PARAMETERS

U_{DRM}, U_{RRM}	up to 1200 V
$I_{T(AV)}$	300 A
I_{TSM}	7400 A
du/dt^*	500 V/μs
di/dt	150 A/μs

* maximum (non standard) value

FEATURES

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



**Outline based on JEDEC TO-209AE
(TO-118)**

See package details for further information

APPLICATION

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

F71-300

Fast Switching Thyristor

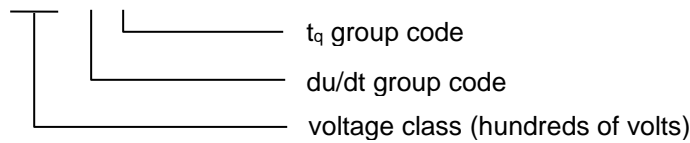


KKF71300, May 2015 version

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.

F71-300-□□-□□



Please refer to **Electrical Parameters**.

Those information, as well as any other concerning non-standard accessories e.g. stud thread, 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}	Conditions	
			I_{DRM}, I_{RRM}	Max. T_c
	V	V	mA	°C
06	600	700	33	70
08	800	900		
10	1000	1100		
12	1200	1300		

du/dt and t_q group codes

Group code	du/dt	t_q
	V/ μ s	μ s
3	---	40
4	---	32
5	320	25
6	500	20



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Electrical properties

Parameter	Unit	Test conditions	Value
Average on-state current	$I_{T(AV)}$	A	300
Case temperature	T_c	°C	70
RMS on-state current	$I_{T(RMS)}$	A	468
Surge current	I_{TSM}	A	$T_j=125^\circ\text{C}$, $U_R=0,8U_{RRM}$, $t_p=10\text{ms}$
I^2t – value	I^2t	kA^2s	274
On-state voltage max.	U_{TM}	V	$T_j=25^\circ\text{C}$, $I_{TM}=1500\text{A}$
Threshold voltage	$U_{T(T0)}$	V	1,14
Slope resistance	r_T	$\text{m}\Omega$	0,70
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	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	$\text{A}/\mu\text{s}$	$T_j=125^\circ\text{C}$, $I_{TM}=3I_{T(AV)}$, $U_D=0,67U_{DRM}$, $f=50\text{Hz}$, $I_{GM}=1\text{A}$, $di_G/dt=1\text{A}/\mu\text{s}$
Critical rate of raise of off-state voltage	du/dt	$\text{V}/\mu\text{s}$	$T_j=125^\circ\text{C}$, $U_D=0,67U_{DRM}$
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}	DC	0,10
Thermal resistance, case to heatsink	R_{thCS}		0,05
Operating junction temperature	$T_{jmin} \dots T_{jmax}$	°C	-40...+125
Storage temperature	T_{stg}	°C	-40...+125

Mechanical properties

Parameter	Unit	Value
Mounting torque	M	Nm
Weight	m	g



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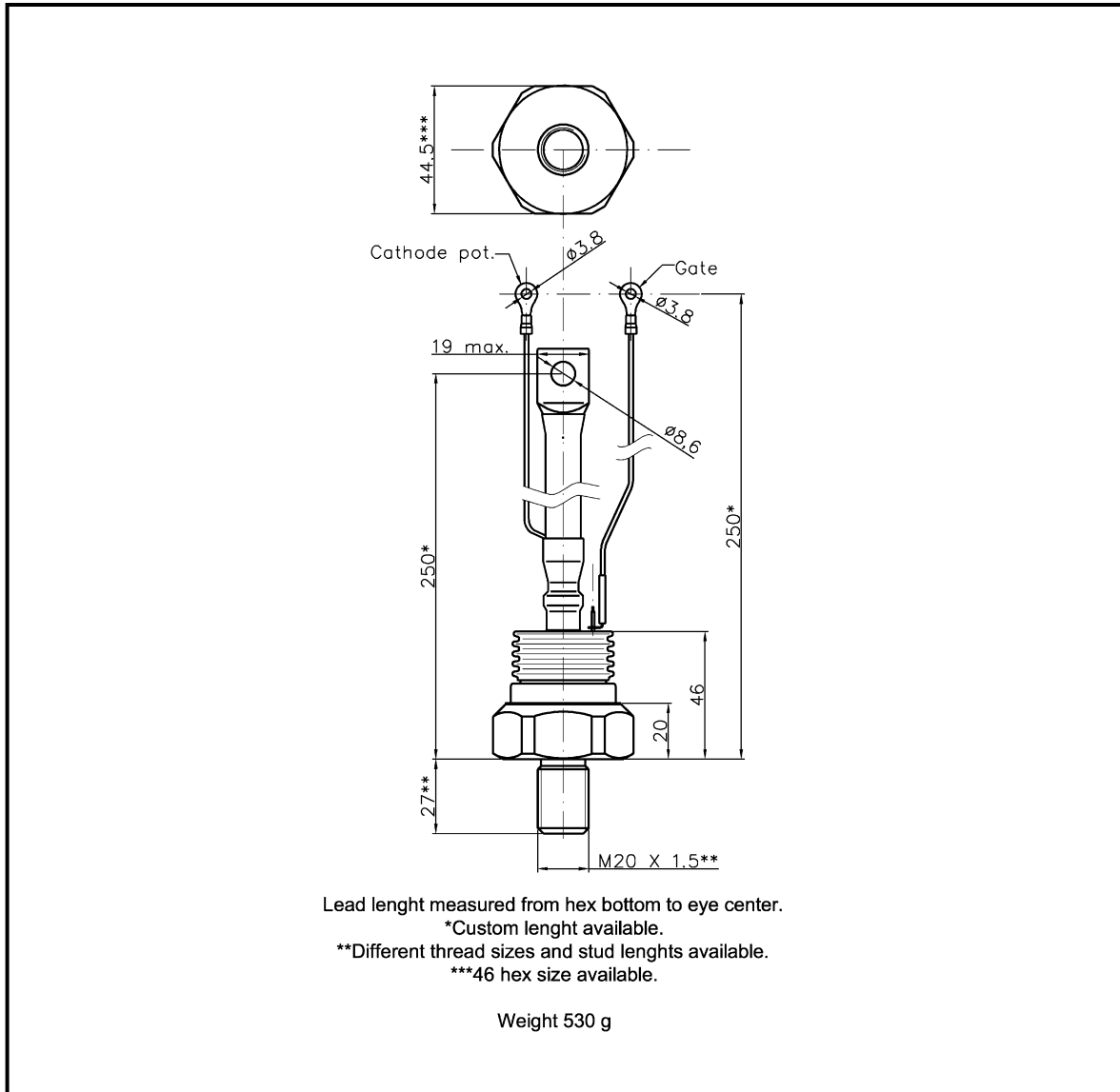
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Fast Switching Thyristor



KKF71300, May 2015 version

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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HEATSINKS

 **KUBARA LAMINA** 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.

POWER ASSEMBLY CAPABILITY

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