

Type SF43-xx63

High Frequency Inverter grade Capsule Thyristor

Distributed amplified gate for high di/dt and low switching losses

Maximum mean on-state current	I_{FAV}	630 A							
Maximum repetitive peak off-state and reverse voltage	U_{DRM}	800 ÷ 1500 V							
Turn-off time	U_{RRM}								
	t_q	16; 20; 25; μs							
U_{DRM}, U_{RRM}, V		800	900	1000	1100	1200	1300	1400	1500
Voltage code - XX		08	09	10	11	12	13	14	15
$T_{vj}, ^\circ C$	- 60 ÷ 125								

MAXIMUM ALLOWABLE RATINGS

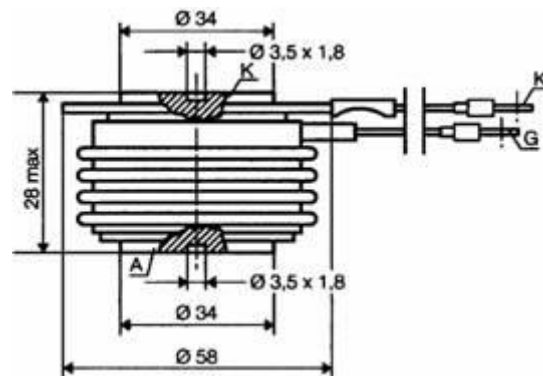
Symbols and parameters		Units	SF43-xx63	Conditions
I_{FAV}	Mean on-state current	A	630 874	$T_c=82^\circ C,$ $T_c=55^\circ C,$ 180° half-sine wave, 50 Hz
I_{TRMS}	RMS on-state current	A	989	$T_c=82^\circ C, 50 \text{ Hz}$
I_{TSM}	Surge on-state current	kA	10	$T_{vj}=125^\circ C \ U_R=0 \ t_p=10 \text{ ms}$
(di/dt) cr	Critical rate of rise of on-state current: non – repetitive repetitive	A/ μ s	2000 1250	$T_{vj}=125^\circ C; U_D=0,67 U_{DRM},$ Gate pulse : 10V,5 Ω , 1 μ s rise time, 10 μ s
U_{RGM}	Peak reverse gate voltage	V	5	
T_{stg}	Storage temperature	$^\circ C$	-60 ÷ 125	
T_{vj}	Junction temperature	$^\circ C$	-60 ÷ 125	

CHARACTERISTICS

Symbols and parameters		Units	SF43xx63	Conditions
U_{TM}	Peak on-state voltage	V	2,3	$T_{vj}=25^\circ C, I_{TM}=3,14 I_{TAV}$
$U_{T(TO)}$	Threshold voltage	V	1,3	$T_{vj}=125^\circ C$
r_T	Slope resistance	m Ω	0,56	$T_{vj}=125^\circ C$
I_{DRM}	Repetitive peak off-state and reverse current	mA	50	$T_{vj}=125^\circ C,$ $U_D= U_{DRM}$ $U_R= U_{RRM}$
I_{RRM}			50	

I _L	Latching current	A	8	T _{vj} =25°C; U _D =12V, Gate pulse: 10V, 5Ω, 1μs rise time, 10μs
I _H	Holding current	A	1,0	T _{vj} =25°C; U _D =12, Gate open
U _{GT}	Gate trigger direct voltage	V	2,5	T _{vj} =25°C; U _D =12V
I _{GT}	Gate trigger direct current	A	0,3	T _{vj} =25°C; U _D =12V
U _{GD}	Gate non-trigger direct voltage	V	0,25	T _{vj} =125°C; U _D =0,67 U _{DRM}
t _{gd}	Delay time	μs	2,0	T _{vj} =25°C, U _D =500V, I _{TM} =630A Gate pulse: 10V, 5Ω, 1μs rise time, 10μs
t _{gt}	Turn-on time	μs	3,2	
t _q	Turn-off time	μs	16÷25 20÷32	T _{vj} =125°C, I _{TM} =630A, di _R /dt= 10 A/μs U _R =100V U _D =0,67 U _{DRM} Di _D /dt= 50 A/μs Di _D /dt= 200 A/μs
Q _{rr}	Recovered charge	μC	100	T _{vj} =125°C, I _{TM} =630A, di _R /dt= 50 A/μs, U _R =100V
(di _D /dt) cr	Critical rate of rise of off-state voltage	V/μs	500 1000	T _{vj} =125°C; U _D =0,67 U _{DRM} Gate open
R _{thjc}	Thermal resistance junction to case	°C/W	0,032	Direct current, double side cooled

Mounting force : 13 ÷ 19 kN
Weight : 340 gram



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