

Type SF71C-xx25

Fast Stud Mounted Thyristor

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

Maximum mean on-state current - I_{TAV} - 250 A							
Maximum repetitive peak off-state - U_{DRM} - 600 ÷ 1200 V							
and reverse voltage - U_{RRM}							
Turn-off time - t_q - 16; 20; 25 μs							
U_{DRM}, U_{RRM}, V	600	700	800	900	1000	1100	1200
Voltage code - XX	6	7	8	9	10	11	12
$T_{vj}, ^\circ C$	- 60 ÷ 125						

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	SF71C-xx25	Conditions
I_{TAV}	Mean on-state current	A	250 353	$T_c=92^\circ C$, $T_c=73^\circ C$, 180° half-sine wave, 50 Hz
I_{TRMS}	RMS on-state current	A	392 554	$T_c=92^\circ C$ $T_c=73^\circ C$
I_{TSM}	Surge on-state current	KA	7,0	$T_{vj}=125^\circ C$ $U_R=0$ $t_p=10$ ms
$(di_T/dt)_{cr}$	Critical rate of rise of on-state current : non - repetitive repetitive	A/ μs	1600 800	$T_{vj}=125^\circ C$; $U_D=0,67 U_{DRM}$, Gate pulse : 10V, 5 Ω , 1 μs rise time, 10 μs
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	SF71C-xx25	Conditions
U_{TM}	Peak on-state voltage	V	2,1	$T_{vj}=25^\circ C$, $I_{TM}=3,14 I_{TAV}$
$U_{T(TO)}$	Threshold voltage	V	1,2	$T_{vj}=125^\circ C$
R_T	On-state slope resistance	m Ω	0,88	$T_{vj}=125^\circ C$
I_{DRM}	Repetitive peak off-state and	mA	50	$T_{vj}=125^\circ C$, $U_D = U_{DRM}$
I_{RRM}	reverse current	mA	50	$U_R = U_{RRM}$
I_H	Holding current	A	1,0	$T_{vj}=25^\circ C$, $U_D=12V$, Gate open

UGT	Gate trigger direct voltage	V	2,5	Tvj=25°C, UD=12V
IGT	Gate trigger direct current	A	0,3	
UGD	Gate non-trigger direct voltage	V	0,25	Tvj=125°C, UD = 0,67 UDRM
tgd	Delay time	μs	1,6	Tvj=25°C, UD=500V ITM = 250 A
tgt	Turn-on time	μs	2,5	Gate pulse : 10V, 5Ω, 1 μs rise time, 10μs
tq	Turn-off time	μs	16÷25 20÷32	Tvj=125°C, ITM=250 A diR/dt=10 A/μs, UR=100V UD = 0,67 UDRM duD/dt=50 V/μs duD/dt=200 V/μs
(duD/dt)crit	Critical rate of rise of off-state voltage	V/μs	500 1000	Tvj=125°C, UD = 0,67 UDRM Gate open
Rthjc	Thermal resistance junction to case	°C/W	0,075	Direct current

Mounting force : 5 ÷ 7 kN
Weight : 500 grams

