



# Type SF53-xx10

## High Frequency Inverter grade Capsule Thyristor

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

Maximum mean on-state current						$I_{FAV}$	<b>1000 A</b>		
Maximum repetitive peak off-state and reverse voltage						$U_{DRM}$	<b>1200 ÷ 2200 V</b>		
Turn-off time						$U_{RRM}$			
						<b>tq</b>	<b>32; 40 μs</b>		
$U_{DRM}, U_{RRM}, V$		1200	1300	1400	1500	1600	1800	2000	2200
Voltage code - <b>XX</b>		12	13	14	15	16	18	20	22
$T_{vj}, °C$	- 60 ÷ 125								

### MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	SF53-xx10	Conditions
$I_{FAV}$	Mean on-state current	A	1000 1300	$T_c=75°C,$ $T_c=55°C,$ 180° half-sine wave, 50 Hz
$I_{TRMS}$	RMS on-state current	A	<b>1570</b>	$T_c=75 °C, 50 Hz$
$I_{TSM}$	Surge on-state current	kA	18	$T_{vj}=125°C U_R=0 t_p=10 ms$
(di/dt) cr	Critical rate of rise of on-state current: non – repetitive repetitive	A/μs	2000 1250	$T_{vj}=125°C; U_D=0,67 U_{DRM},$ Gate pulse : 10V,5Ω, 1μs rise time, 10μs
$U_{RGM}$	Peak reverse gate voltage	V	5	
$T_{stg}$	Storage temperature	°C	-60 ÷ 125	
$T_{vj}$	Junction temperature	°C	-60 ÷ 125	

### CHARACTERISTICS

Symbols and parameters		Units	SF53xx10	Conditions
$U_{TM}$	Peak on-state voltage	V	2,35	$T_{vj}=25°C, I_{TM}=3,14 I_{TAV}$
$U_{T(To)}$	Threshold voltage	V	1,48	$T_{vj}=125°C$
$r_T$	Slope resistance	mΩ	0,34	$T_{vj}=125°C$
$I_{DRM}$	Repetitive peak off-state and reverse current	mA	70	$T_{vj}=125°C,$
$I_{RRM}$			70	$U_D= U_{DRM}$ $U_R= U_{RRM}$

