



**THE DATASHEET OF
TFI143-400-12_26MM**





TET ESTEL AS
ESTONIA

April
2014

Series
TFI143-400

High Frequency Inverter grade
Capsule Thyristor
Type TFI143-400

Low turn-off time
Low reverse recovery charge
Distributed amplified gate for high di/dt

Maximum mean on-state current	I_{TAV} 400 A				
Maximum repetitive peak off-state and reverse voltage	U_{DRM} 800 ÷ 1200 V				
Turn-off time	U_{RRM} 6,3; 8; 10 μs				
	t_q				
U_{DRM}, U_{RRM}, V	800	900	1000	1100	1200
Voltage code	8	9	10	11	12
$T_{vj}, ^\circ C$	- 60 ÷ 125				

MAXIMUM ALLOWABLE RATINGS



Symbols and parameters		Units	TFI143-400	Conditions
I_{TAV}	Mean on-state current	A	400 716	$T_c=90^\circ C,$ $T_c=55^\circ C,$ 180° half-sine wave, 50 Hz
I_{TRMS}	RMS on-state current	A	628	$T_c=90^\circ C$
I_{TSM}	Surge on-state current	kA	10,0 11,0	$T_{vj}=125^\circ C$ $T_{vj}=25^\circ C$ tp=10 ms
I^2t	Limiting load integral	kA^2s	500 605	$T_{vj}=125^\circ C$ $T_{vj}=25^\circ C$ $U_R=0$
U_{DRM}, U_{RRM}	Repetitive peak off-state and reverse voltage	V	800÷1200	$T_{j\ min} \leq T_{vj} \leq T_{j\ M}$ 180° half-sine wave, 50 Hz Gate open
U_{DSM}, U_{RSM}	Non-repetitive peak off-state and reverse voltage	V	880÷1300	$T_{j\ min} \leq T_{vj} \leq T_{j\ M}$ 180° half-sine wave tp=10 ms, Single pulse Gate open
(diT/dt) crit	Critical rate of rise of on-state current : non - repetitive repetitive	$A/\mu s$	2000 1250	$T_{vj}=125^\circ C ; U_D=0,67 U_{DRM},$ Gate pulse : 10V, 5 $\Omega,$ 1 μ s rise time, 10 μ s
U_{RGM}	Peak reverse gate voltage	V	5	$T_{j\ min} \leq T_{vj} \leq T_{j\ M}$
T_{stg}	Storage temperature	$^\circ C$	-60÷80	
T_{vj}	Junction temperature	$^\circ C$	-60÷125	

CHARACTERISTICS

U_{TM}	Peak on-state voltage	V	2,55	$T_{vj}=25^\circ C, I_{TM}=3,14 I_{TAV}$
$U_{T(TO)}$	Threshold voltage	V	1,45	$T_{vj}=125^\circ C$
R_T	On-state slope resistance	$m\Omega$	0,65	$1,57 I_{TAV} < I_T < 4,71 I_{TAV}$
I_{DRM} I_{RRM}	Repetitive peak off-state and reverse current	mA	50 50	$T_{vj}=125^\circ C,$ $U_D = U_{DRM}$ $U_R = U_{RRM}$

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