



TET ESTEL AS
ESTONIA

May
2013

Series
TF253-800

High Frequency Inverter grade
Capsule Thyristor
Type TF253-800

Low switching losses
Low reverse recovery charge
Distributed amplified gate for high di/dt

Maximum mean on-state current	I_{TAV}	800 A						
Maximum repetitive peak off-state and reverse voltage	U_{DRM}	800 ÷ 1500 V						
Turn-off time	U_{RRM}	25; 32; 40 μs						
U_{DRM}, U_{RRM}, V	800	900	1000	1100	1200	1300	1400	1500
Voltage code	8	9	10	11	12	13	14	15
$T_{vj}, ^\circ C$	- 60 ÷ 125							

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	TF253-800	Conditions
I_{TAV}	Mean on-state current	A	800 1330	$T_c=85^\circ C$, $T_c=55^\circ C$, 180° half-sine wave, 50 Hz
I_{TRMS}	RMS on-state current	A	1255	$T_c=85^\circ C$
I_{TSM}	Surge on-state current	kA	20 22	$T_{vj}=125^\circ C$ $T_{vj}=25^\circ C$ tp=10 ms $U_R=0$
I^2t	Limiting load integral	kA^2s	2000 2420	$T_{vj}=125^\circ C$ $T_{vj}=25^\circ C$
U_{DRM}, U_{RRM}	Repetitive peak off-state and reverse voltage	V	800 ÷ 1500	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz Gate open
U_{DSM}, U_{RSM}	Non-repetitive peak off-state and reverse voltage	V	880 ÷ 1600	$T_j \min \leq T_{vj} \leq T_{jM}$ 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/ 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	$T_j \min \leq T_{vj} \leq T_{jM}$
T_{stg}	Storage temperature	$^\circ C$	-60 ÷ 80	
T_{vj}	Junction temperature	$^\circ C$	-60 ÷ 125	

CHARACTERISTICS

U_{TM}	Peak on-state voltage	V	2,35	$T_{vj}=25^\circ C, I_{TM}=3,14 I_{TAV}$
$U_{T(To)}$	Threshold voltage	V	1,2	$T_{vj}=125^\circ C$
R_T	On-state slope resistance	m Ω	0,4	1,57 $I_{TAV} < I_T < 4,71 I_{TAV}$
I_{DRM} I_{RRM}	Repetitive peak off-state and reverse current	mA	70 70	$T_{vj}=125^\circ C$, $U_D = U_{DRM}$ $U_R = U_{RRM}$

