



**TET ESTEL AS**  
ESTONIA

**June**  
**2013**

**Series**  
**TFI271-200**

**Fast Stud Mounted Thyristor**  
**Type TFI271-200**

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

Maximum mean on-state current	$I_{TAV}$	<b>200 A</b>
Maximum repetitive peak off-state and reverse voltage	$U_{DRM}$ $U_{RRM}$	<b>800 ÷ 1500 V</b>
Turn-off time	$t_q$	<b>16; 20; 25; 32 μs</b>
$U_{DRM}, U_{RRM}, V$	800	900
	1000	1100
	1200	1300
	1400	1500
Voltage code	8	9
	10	11
	12	13
	14	15
$T_{vj}, °C$	- 60 ÷ 125	

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	TFI271-200	Conditions
$I_{TAV}$	Mean on-state current	A	200	$T_c=85 °C$ , 180° half-sine wave, 50 Hz
$I_{TRMS}$	RMS on-state current	A	314	$T_c=85 °C$
$I_{TSM}$	Surge on-state current	kA	6,0 6,6	$T_{vj}=125 °C$ $T_{vj}=25 °C$ tp=10 ms $U_R=0$
$I^2t$	Limiting load integral	$kA^2s$	180 217	$T_{vj}=125 °C$ $T_{vj}=25 °C$
$U_{DRM}, U_{RRM}$	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	900 ÷ 1600	$T_j min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave tp=10 ms, Single pulse Gate open
$(di_T/dt)_{crit}$	Critical rate of rise of on-state current : non - repetitive repetitive	$A/\mu s$	1600 800	$T_{vj}=125 °C$ ; $U_D=0,67 U_{DRM}$ , Gate pulse : 10V, 5 $\Omega$ , 1 $\mu s$ rise time, 10 $\mu s$
$U_{RGM}$	Peak reverse gate voltage	V	5	$T_j min \leq T_{vj} \leq T_{jM}$
$T_{stg}$	Storage temperature	°C	-60 ÷ 80	
$T_{vj}$	Junction temperature	°C	-60 ÷ 125	

**CHARACTERISTICS**

$U_{TM}$	Peak on-state voltage	V	2,3	$T_{vj}=25 °C$ , $I_{TM}=3,14 I_{TAV}$
$U_{T(To)}$	Threshold voltage	V	1,45	$T_{vj}=125 °C$
$R_T$	On-state slope resistance	$m\Omega$	1,5	1,57 $I_{TAV} < I_T < 4,71 I_{TAV}$
$I_{DRM}$ $I_{RRM}$	Repetitive peak off-state and reverse current	mA	70 70	$T_{vj}=125 °C$ , $U_D = U_{DRM}$ $U_R = U_{RRM}$

