



**TET ESTEL AS**  
ESTONIA

**March**  
**2014**

**Series**  
**DF251-160**  
**DF251-160X**

**Fast Recovery Stud-Mounted**  
**Diodes**  
**Type DF251-160,**  
**DF251-160X**

For use as high-power inverters,  
fly-wheel diodes in DC choppers,  
power supplies as high frequency rectifier

Maximum mean forward current	$I_{FAV}$											<b>160 A</b>
Maximum repetitive peak reverse voltage	$U_{RRM}$											<b>600 ÷ 1600 V</b>
Reverse recovery time	$t_{rr}$											<b>2,0; 2,5; 3,2 μs</b>
$U_{RRM}, V$	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	
Voltage code	6	7	8	9	10	11	12	13	14	15	16	
$T_{vj}, °C$	- 60 ÷ 125											

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	DF251-160 DF251-160X	Conditions
$I_{FAV}$	Mean forward current	A	160 245	$T_c=83 °C$ , $T_c=55 °C$ , 180° half-sine wave, 50 Hz
$I_{FRMS}$	RMS forward current	A	250	$T_c=83 °C$
$I_{FSM}$	Surge forward current	kA	3,5 4,0	$T_{vj}=125 °C$ $T_{vj}= 25 °C$ tp=10 ms
$I^2t$	Limiting load integral	$kA^2s$	61 80	$T_{vj}=125 °C$ $T_{vj}= 25 °C$ $U_R=0$
$U_{RRM}$	Repetitive peak reverse voltage	V	600÷1600	$T_{j min} \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz
$U_{RSM}$	Non-repetitive peak reverse voltage	V	660÷1700	$T_{j min} \leq T_{vj} \leq T_{jM}$ 180° half-sine wave tp=10 ms, Single pulse
$T_{stg}$	Storage temperature	°C	-60÷80	
$T_{vj}$	Junction temperature	°C	-60÷125	

**CHARACTERISTICS**

$U_{FM}$	Peak forward voltage	V	1,7	$T_{vj}=25 °C$ , $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	0,97	$T_{vj}=125 °C$
$R_T$	Forward slope resistance	mΩ	1,0	$1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
$I_{RRM}$	Repetitive peak reverse current	mA	30	$T_{vj}=125 °C$ , $U_R = U_{RRM}$

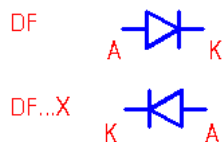
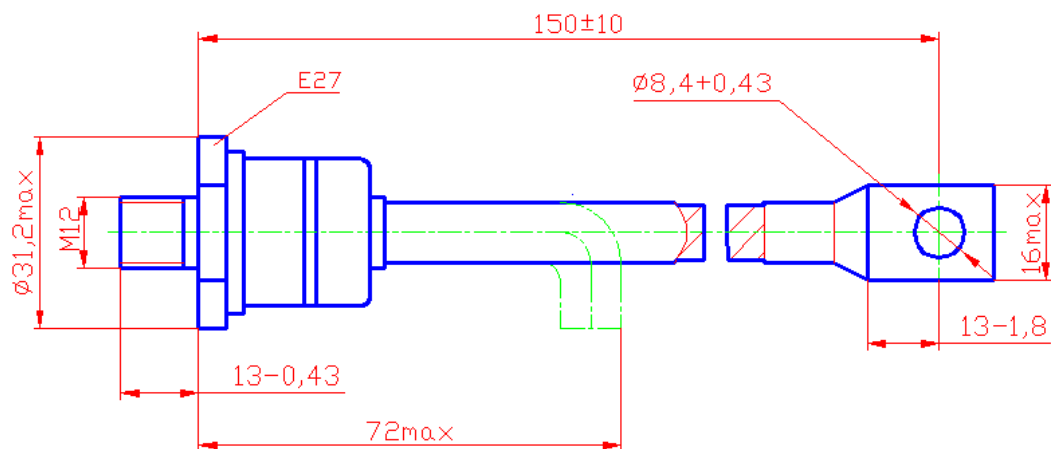
## CHARACTERISTICS

Symbols and parameters		Units	DF251-160 DF251-160X	Conditions
trr	Reverse recovery time	μs	2,0 ÷ 3,2 1,6 ÷ 2,5 1,25 ÷ 2,0	Tvj=125°C, If=160A, Ur=100V diR / dt = 50A/μs diR / dt = 100A/μs diR / dt = 200A/μs
Qrr	Recovered charge	μC	40 ÷ 80 60 ÷ 100 70 ÷ 120	Tvj=125°C, If=160A, Ur=100V diR / dt = 50A/μs diR / dt = 100A/μs diR / dt = 200A/μs
Rthjc	Thermal resistance junction to case	°C/W	0,18	Direct current

## ORDERING

	DF	251	160	X	14	4
	1	2	3	4	5	6

1. Fast recovery diode.
2. Design version.
3. Mean forward current, A .
4. Reverse polarity (cathode stud mounted), without X-normal polarity.
5. Voltage code (14 = 1400 V).
6. Group of reverse recovery time (3 ≤ 3,2 μs; 4 ≤ 2,5 μs; 5 ≤ 2,0 μs).



Tightening torque: 12 ÷ 18 Nm  
Weight : 150 grams