



**TET ESTEL AS**  
ESTONIA

**July**  
**2013**

**Series**  
**DL171-320**  
**DL171-320X**

**Avalanche Rectifier Stud-Mounted**  
**Diodes**  
**Type DL171-320**  
**DL171-320X**

Guaranteed maximum avalanche power dissipation.  
Designed for rectifiers and industrial applications.

Maximum mean forward current	$I_{FAV}$	<b>320 A</b>						
Maximum repetitive peak reverse voltage	$U_{RRM}$	<b>1000 ÷ 1800 V</b>						
Surge reverse power dissipation	$P_{RSM}$	<b>16kW</b>						
Reverse recovery time	$t_{rr}$ (typ)	<b>25 <math>\mu</math>s</b>						
$U_{RRM}$ , V	1000	1100	1200	1300	1400	1500	1600	1800
Voltage code	10	11	12	13	14	15	16	18
$T_{vj}$ , °C	- 60 ÷ 150							

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	DL171-320 DL171-320X	Conditions
$I_{FAV}$	Mean forward current	A	320	$T_c=116^\circ\text{C}$ , 180° half-sine wave, 50 Hz
$I_{FRMS}$	RMS forward current	A	502	$T_c=116^\circ\text{C}$
$I_{FSM}$	Surge forward current	kA	10 11	$T_{vj}=150^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$
$I^2t$	Limiting load integral	$\text{kA}^2\text{s}$	500 605	$T_{vj}=150^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$
$U_{RRM}$	Repetitive peak reverse voltage	V	1000÷1800	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz
$U_{BR}$	Reverse breakdown voltage	V	1250÷2250	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz $I_R=10\text{mA}$
$P_{RSM}$	Surge reverse power dissipation	kW	16	$T_{vj}=150^\circ\text{C}$ ; $t_p=100\mu\text{s}$ ; 180° half-sine wave
$T_{stg}$	Storage temperature	°C	-60÷80	
$T_{vj}$	Junction temperature	°C	-60÷150	

**CHARACTERISTICS**

$U_{FM}$	Peak forward voltage	V	1,4	$T_{vj}=25^\circ\text{C}$ , $I_{TM}=3,14 I_{TAV}$
$U_{F(TO)}$	Threshold voltage	V	1,0	$T_{vj}=150^\circ\text{C}$ $1,57 I_{TAV} < I_T < 4,71 I_{TAV}$
$R_T$	Forward slope resistance	$\text{m}\Omega$	0,5	

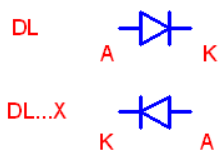
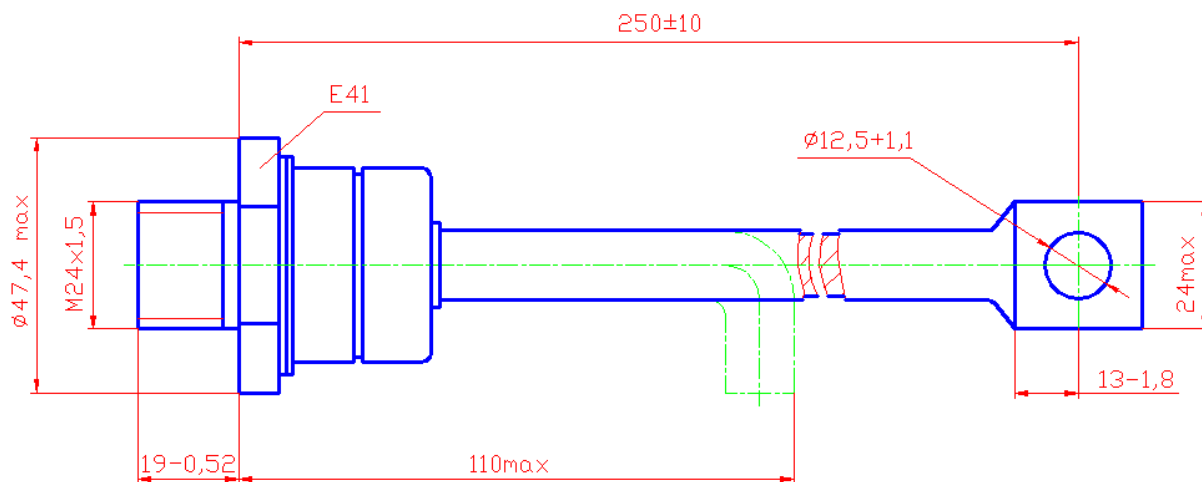
### CHARACTERISTICS

Symbols and parameters		Units	DL171-320 DL171-320X	Conditions
I <sub>RRM</sub>	Repetitive peak reverse current	mA	25	T <sub>vj</sub> =150°C, U <sub>R</sub> = U <sub>RRM</sub>
Q <sub>rr</sub>	Recovered charge (typ)	μC	1000	T <sub>vj</sub> =150°C I <sub>F</sub> =320 A di <sub>R</sub> /dt =10 A/μs U <sub>R</sub> =100V
t <sub>rr</sub>	Reverse recovery time (typ)	μS	25	
I <sub>rrm</sub>	Peak reverse recovery current (typ)	A	80	
R <sub>thjc</sub>	Thermal resistance junction to case	°C/W	0,075	Direct current,

### ORDERING

	DL	171	320	X	16	
	1	2	3	4	5	

1. Avalanche diode
2. Design version
3. Mean forward current, A
4. Reverse polarity (cathode stud mounted), without X-normal polarity
5. Voltage code (16=1600 V)



Tightening torque 40 ÷ 60 Nm  
Weight : 480 grams