



**TET ESTEL AS**  
ESTONIA

**March**  
**2016**

**Series**  
**D153-1600**

**Rectifier Press-Pack**  
**Diode**  
**Type D153-1600**

Designed for rectifiers and industrial applications

|   |             |     |      |      |      |      |      |      |      |      |                             |
|---|-------------|-----|------|------|------|------|------|------|------|------|-----------------------------|
| Maximum mean forward current            | $I_{FAV}$   |     |      |      |      |      |      |      |      |      | <b>1600 A</b>               |
| Maximum repetitive peak reverse voltage | $U_{RRM}$   |     |      |      |      |      |      |      |      |      | <b>800 ÷ 1800 V</b>         |
| Reverse recovery time                   | $trr$ (typ) |     |      |      |      |      |      |      |      |      | <b>30 <math>\mu</math>s</b> |
| $U_{RRM}$ , V                           | 800         | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1800 |                             |
| Voltage code                            | 8           | 9   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 18   |                             |
| $T_{vj}$ , °C                           | - 60 ÷ 175  |     |      |      |      |      |      |      |      |      |                             |

**MAXIMUM ALLOWABLE RATINGS**

| Symbols and parameters |                                     | Units             | D153-1600    | Conditions  |
|------------------------|-------------------------------------|-------------------|--------------|---|
| $I_{FAV}$              | Mean forward current                | A                 | 1600<br>3380 | $T_c=133\text{ }^\circ\text{C}$ ,<br>$T_c=55\text{ }^\circ\text{C}$ ,<br>180° half-sine wave, 50 Hz |
| $I_{FRMS}$             | RMS forward current                 | A                 | 2512         | $T_c=133\text{ }^\circ\text{C}$   |
| $I_{FSM}$              | Surge forward current               | kA                | 35<br>38     | $T_{vj}=175\text{ }^\circ\text{C}$<br>$T_{vj}=25\text{ }^\circ\text{C}$<br>tp=10 ms                 |
| $I^2t$                 | Limiting load integral              | kA <sup>2</sup> s | 6125<br>7220 | $T_{vj}=175\text{ }^\circ\text{C}$<br>$T_{vj}=25\text{ }^\circ\text{C}$<br>U <sub>R</sub> =0        |
| $U_{RRM}$              | Repetitive peak reverse voltage     | V                 | 800÷1800     | $T_j \min \leq T_{vj} \leq T_{jM}$<br>180° half-sine wave, 50 Hz                                    |
| $U_{RSM}$              | Non-repetitive peak reverse voltage | V                 | 900÷1900     | $T_j \min \leq T_{vj} \leq T_{jM}$<br>180° half-sine wave<br>tp=10 ms, Single pulse                 |
| $T_{stg}$              | Storage temperature                 | °C                | -60÷80       |   |
| $T_{vj}$               | Junction temperature                | °C                | -60÷175      |   |

**CHARACTERISTICS**

|             |                                 |            |      |   |
|-------------|---------------------------------|------------|------|---|
| $U_{FM}$    | Peak forward voltage            | V          | 1,5  | $T_{vj}=25\text{ }^\circ\text{C}$ , $I_{TM}=3,14 I_{TAV}$                 |
| $U_{F(TO)}$ | Threshold voltage               | V          | 0,86 | $T_{vj}=175\text{ }^\circ\text{C}$<br>$1,57 I_{TAV} < I_T < 4,71 I_{TAV}$ |
| $R_T$       | Forward slope resistance        | m $\Omega$ | 0,11 |   |
| $I_{RRM}$   | Repetitive peak reverse current | mA         | 90   | $T_{vj}=175\text{ }^\circ\text{C}$ ,<br>$U_R = U_{RRM}$                   |

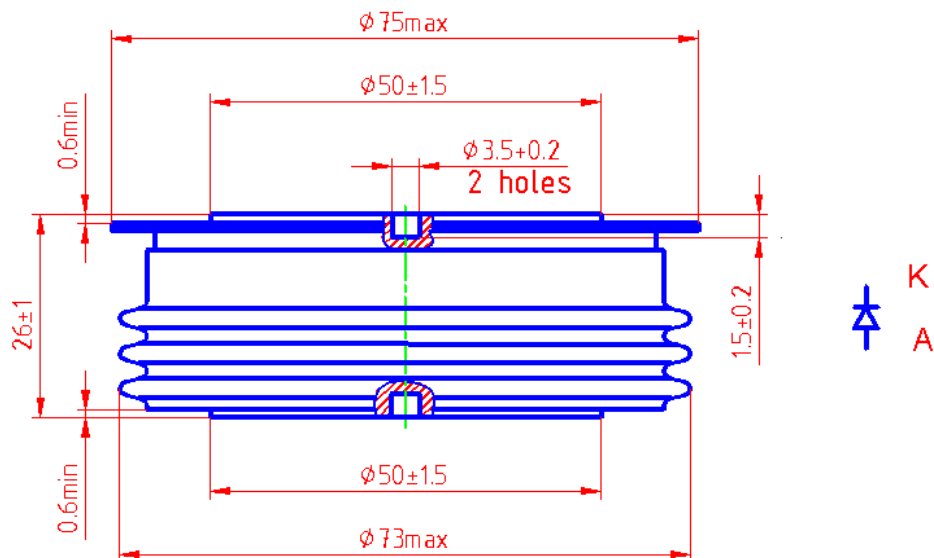
## CHARACTERISTICS

| Symbols and parameters |                                     | Units | D153-1600 | Conditions   |
|------------------------|-------------------------------------|-------|-----------|--|
| Q <sub>rr</sub>        | Recovered charge (typ)              | μC    | 3500      | T <sub>vj</sub> = 175°C<br>I <sub>F</sub> = 1600 A<br>di <sub>R</sub> /dt = 10 A/μs<br>U <sub>R</sub> = 100V |
| t <sub>rr</sub>        | Reverse recovery time (typ)         | μs    | 40        |  |
| I <sub>rrm</sub>       | Peak reverse recovery current (typ) | A     | 175       |  |
| R <sub>thjc</sub>      | Thermal resistance junction to case | °C/W  | 0,02      | Direct current, double side cooled   |

## ORDERING

|  | <b>D</b> | <b>153</b> | <b>1600</b> | <b>18</b> |  |
|--|----------|------------|-------------|-----------|--|
|  | <b>1</b> | <b>2</b>   | <b>3</b>    | <b>4</b>  |  |

1. Diode
2. Design version
3. Mean forward current, A
4. Voltage code (18=1800 V)



Mounting force : 19 ÷ 28 kN  
Weight : 580 grams