



High-end Power Semiconductor Manufacturer

ZP1200A 3600-4500V Standard Rectifier Diode

- High power cycling capability
- Low on-state and switching losses
- Optimized for line frequency rectifiers
- Designed for traction and industrial applications



Average forward current	I_{FAV}	1200 A
Repetitive peak reverse voltage	V_{RRM}	3600 - 4500 V
$T_j, ^\circ\text{C}$		-40 - 150

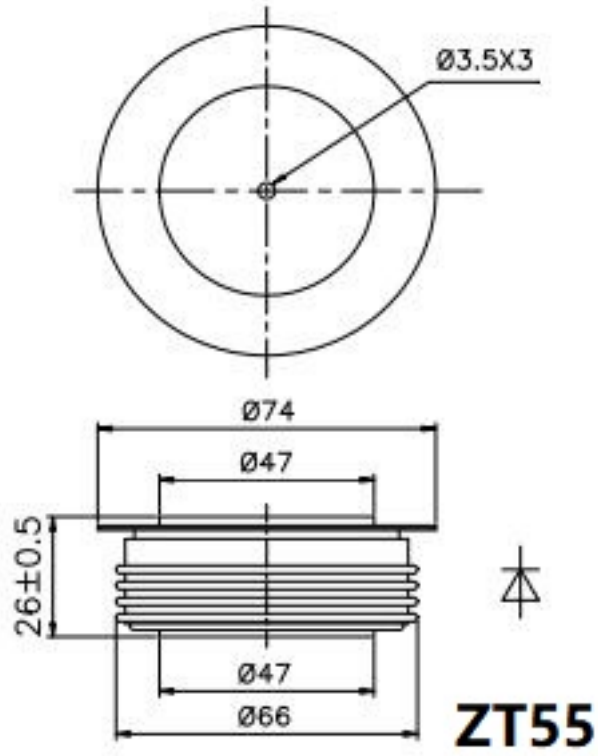
MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions
ON-STATE				
I_{FAV}	Average forward current	A	1200	$T_c=100\text{ }^\circ\text{C}$; Double side cooled; 180° half-sine wave; 50 Hz
I_{FRMS}	RMS forward current	A	1884	$T_c=100\text{ }^\circ\text{C}$
I_{FSM}	Surge forward current	kA	19.6	$T_j=T_{j\text{ max}}$ 180° half-sine wave; ($t_p=10\text{ ms}$); $V_R=0\text{ V}$
I_{zt}	Safety factor	$\text{A}^2\text{s}\cdot 10^4$	192	$T_j=T_{j\text{ max}}$ 180° half-sine wave; ($t_p=10\text{ ms}$)
BLOCKING				
V_{RRM}	Repetitive peak reverse voltages	V	3600-4500	$T_{j\text{ min}} < T_j < T_{j\text{ max}}$; 180° half-sine wave
V_{RSM}	Non-repetitive peak reverse voltages	V	3700-4600	
THERMAL				
T_{stg}	Storage temperature	$^\circ\text{C}$	-40- 160	
T_j	Operating junction temperature	$^\circ\text{C}$	-40- 150	
MECHANICAL				
F	Mounting force	kN	22.0	

CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions
ON-STATE				
V_{FM}	Peak forward voltage, max	V	1.55	$T_j=25\text{ }^{\circ}\text{C}; I_{TM}=1500\text{ A}$
$V_{F(TO)}$	Forward threshold voltage, max	V	0.96	$T_j=T_{j\text{ max}}$
r_T	Forward slope resistance, max	$\text{m}\Omega$	0.296	
BLOCKING				
I_{RRM}	Repetitive peak reverse current, max	mA	150	$T_j=T_{j\text{ max}};$ $V_R=V_{RRM}$
THERMAL				
R_{thjc}	Thermal resistance, junction to case, max	$^{\circ}\text{C}/\text{W}$	0.020	
R_{thck}	Thermal resistance, case to heatsink, max	$^{\circ}\text{C}/\text{W}$	0.005	
MECHANICAL				
w	Weight, typ	g	470	

OVERALL DIMENSIONS



All dimensions in millimeters