



High-end Power Semiconductor Manufacturer

ZP4300A 5100-6500V 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}		4380 A			
Repetitive peak reverse voltage				V_{RRM}		5100-6500 V			
V_{RRM} , V	5100	5200	5400	5600	5800	6000	6200	6400	6500
Voltage code	51	52	54	56	58	60	62	64	65
T_j , °C	-60 - 150								

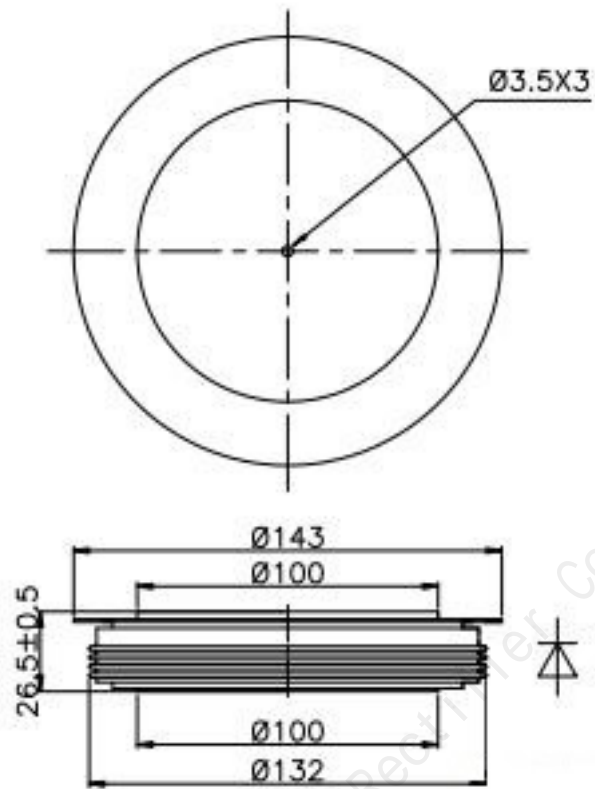
MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions
ON-STATE				
I_{FAV}	Average forward current	A	4380	$T_c=100$ °C; Double side cooled; 180° half-sine wave; 50 Hz
I_{FSM}	Surge forward current	kA	57.0	$T_j=T_{j\max}$ 180° half-sine wave; ($t_p=10$ ms); $V_R=0.6V_{RRM}$
I^2t	Safety factor	$A^2s \cdot 10^3$	16200	$T_j=T_{j\max}$ 180° half-sine wave; ($t_p=10$ ms); $V_R=0.6V_{RRM}$
BLOCKING				
V_{RRM}	Repetitive peak reverse voltages	V	4300-5000	$t_p=10$ ms; $T_j=T_{j\max}$
THERMAL				
T_{stg}	Storage temperature	°C	-40-160	
T_j	Operating junction temperature	°C	-60-150	
MECHANICAL				
F	Mounting force	kN	81.0-108.0	

CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions
ON-STATE				
V_{FM}	Peak forward voltage, max	V	1.70	$T_j=25\text{ }^\circ\text{C}; I_{FM}=5000\text{ A}; F=108\text{kN}$
$V_{F(TO)}$	Forward threshold voltage, max	V	0.88	$T_j=T_{j\text{max}};$
r_T	Forward slope resistance, max	$\text{m}\Omega$	0.16	
BLOCKING				
I_{RRM}	Repetitive peak reverse current, max	mA	300	$T_j=T_{j\text{max}};$ $V_R=V_{RRM}$
THERMAL				
R_{thjc}	Thermal resistance, junction to case, max	$^\circ\text{C}/\text{W}$	0.0057	At 180° sine; double side cooled Clamping force 108kN
R_{thck}	Thermal resistance, case to heatsink, max	$^\circ\text{C}/\text{W}$	0.0015	
MECHANICAL				
w	Weight, typ	g	2020	

OVERALL DIMENSIONS



ZT110

All dimensions in millimeters

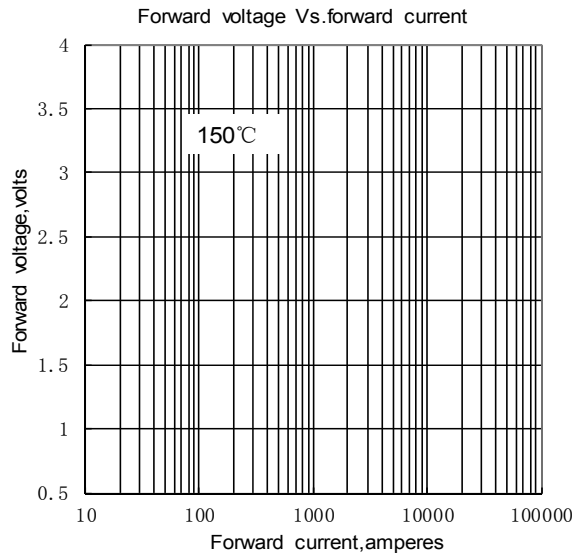


Fig.1

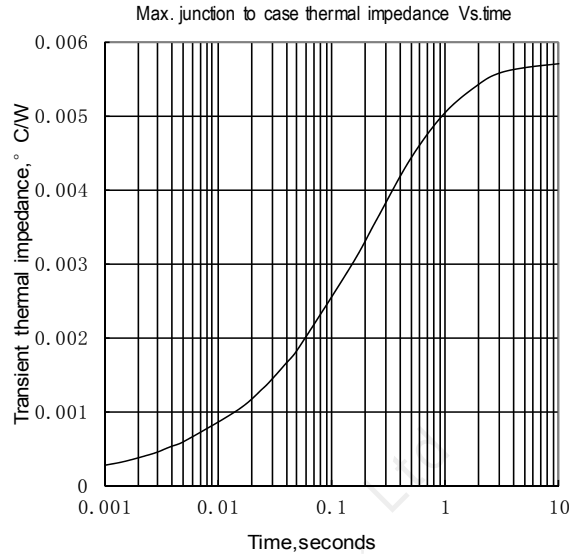


Fig.2

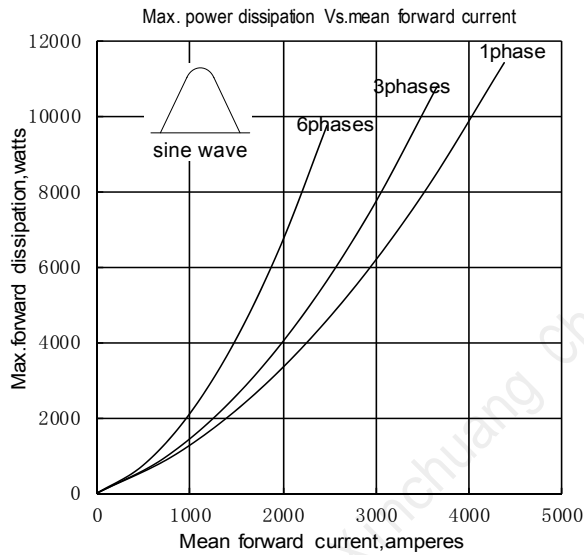


Fig.3

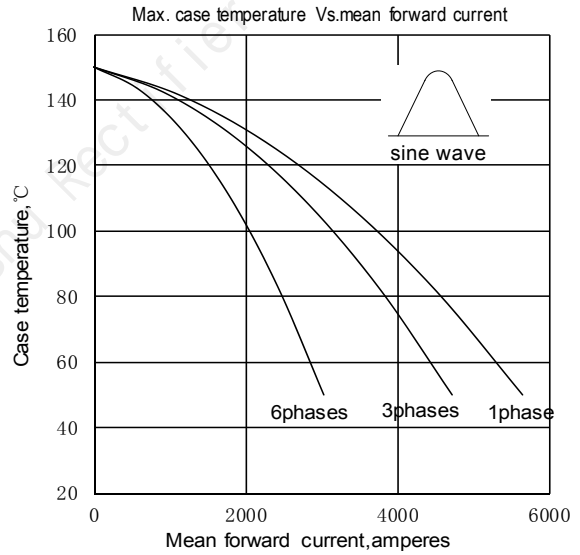
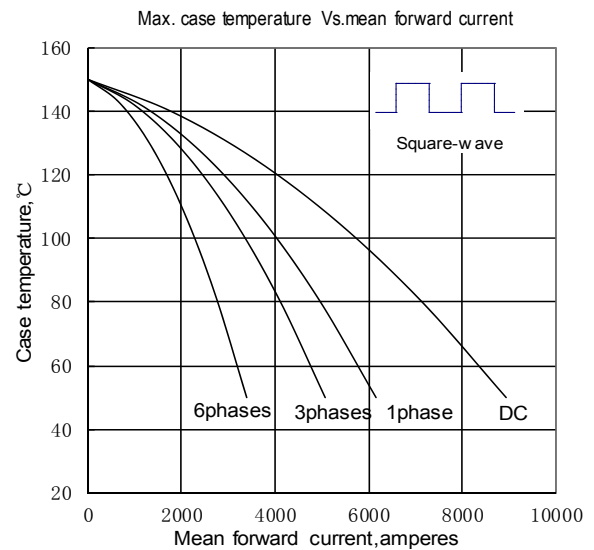
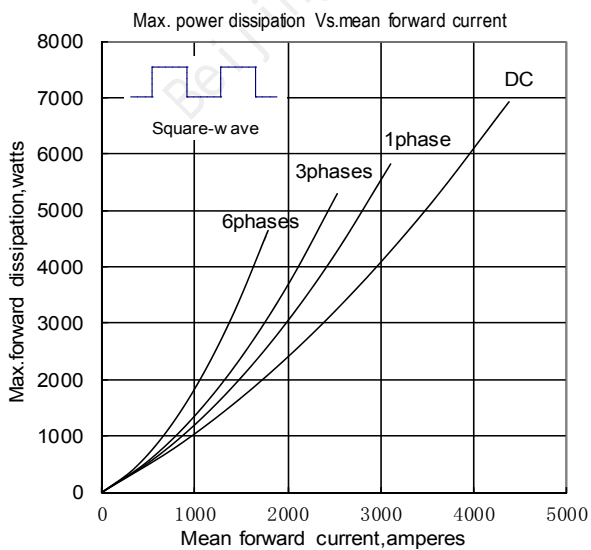


Fig.4



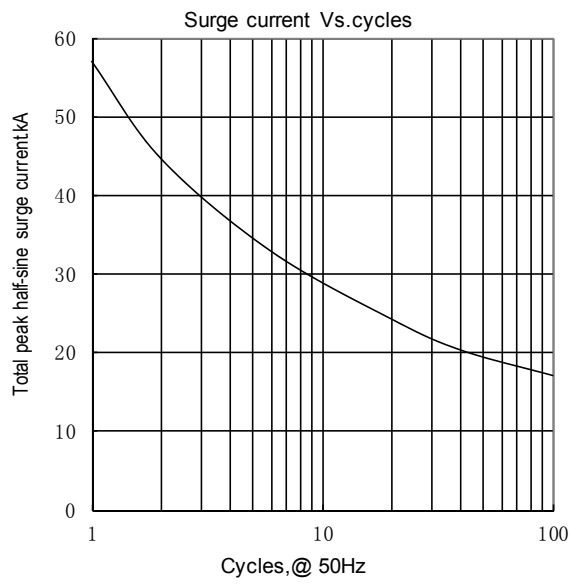


Fig.7

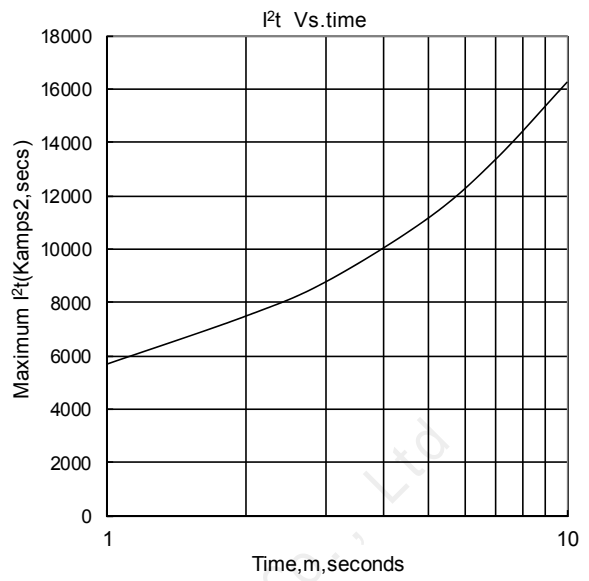


Fig.8