



High-end Power Semiconductor Manufacturer

ZP8200A 4600-5500V 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}	8270 A		
Repetitive peak reverse voltage			V_{RRM}	4600 – 5500 V		
V_{RRM} , V	4600	4800	5000	5200	5400	5500
Voltage code	46	48	50	52	54	55
T_j , °C	-40 – 150					

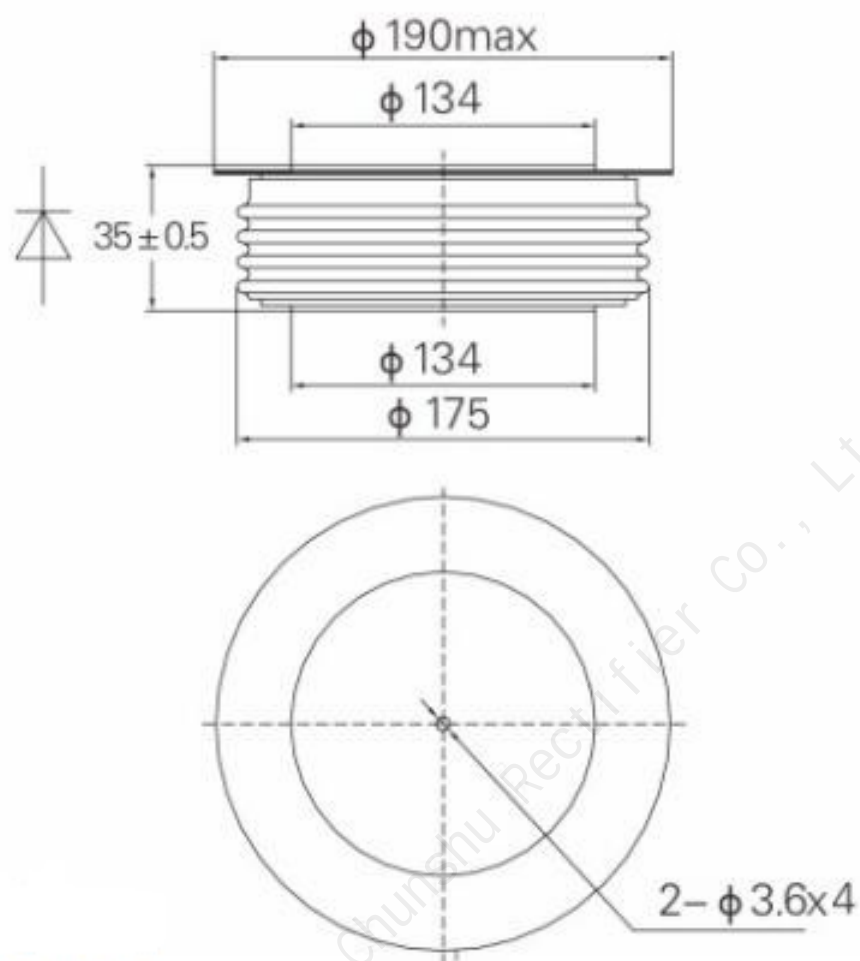
MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions	
ON-STATE					
I_{FAV}	Average forward current	A	8270	$T_c=100\text{ }^{\circ}\text{C}$; Double side cooled; 180° half-sine wave; 50 Hz	
I_{FRMS}	RMS forward current	A	13000	$T_c=100\text{ }^{\circ}\text{C}$	
I_{FSM}	Surge forward current	kA	120.0	$T_j=T_{j\max}$	180° half-sine wave; ($t_p=10\text{ ms}$); $V_R=0\text{ V}$;
I^2t	Safety factor	$\text{A}^2\text{s}\cdot 10^4$	7200	$T_j=T_{j\max}$	180° half-sine wave; ($t_p=10\text{ ms}$)
BLOCKING					
V_{RRM}	Repetitive peak reverse voltages	V	4600-5500	$T_{j\min}<T_j<T_{j\max}$; 180° half-sine wave	
V_{RSM}	Non-repetitive peak reverse voltages	V	4700-5600	$T_j=25, 150^{\circ}\text{C}$; $I_{RRM}\leq 400\text{mA}$; $V_R=V_{RRM}$; $t_p=10\text{ms}$	
THERMAL					
T_{stg}	Storage temperature	$^{\circ}\text{C}$	-40-150		
T_j	Operating junction temperature	$^{\circ}\text{C}$	-40-150		
MECHANICAL					
F	Mounting force	kN	180.0		

CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions
ON-STATE				
V _{FM}	Peak forward voltage, max	V	1.10	T _j =150 °C; I _{TM} =6000 A
V _{F(TO)}	Forward threshold voltage, max	V	0.74	T _j =T _{j max}
r _T	Forward slope resistance, max	mΩ	0.060	
BLOCKING				
I _{RRM}	Repetitive peak reverse current, max	mA	400	T _j =T _{j max} ; V _R =V _{RRM}
THERMAL				
R _{thjc}	Thermal resistance, junction to case, max	°C/W	0.0028	
R _{thck}	Thermal resistance, case to heatsink, max	°C/W	0.0005	
MECHANICAL				
w	Weight, typ	g	4500	

OVERALL DIMENSIONS



ZT150DT

All dimensions in millimeters

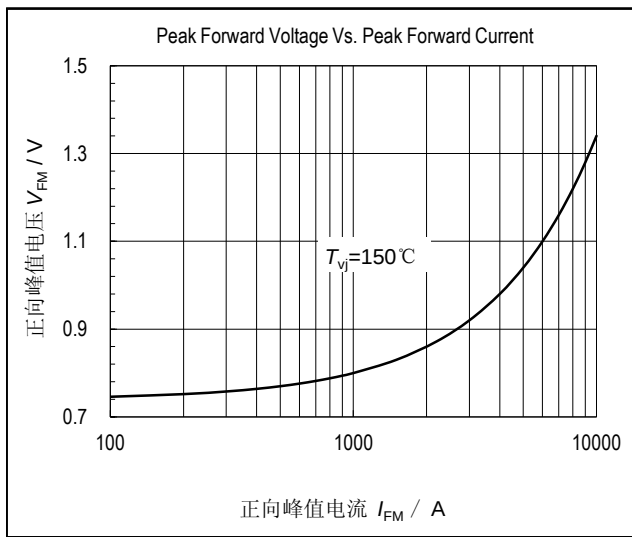


图1. 正向伏安特性曲线

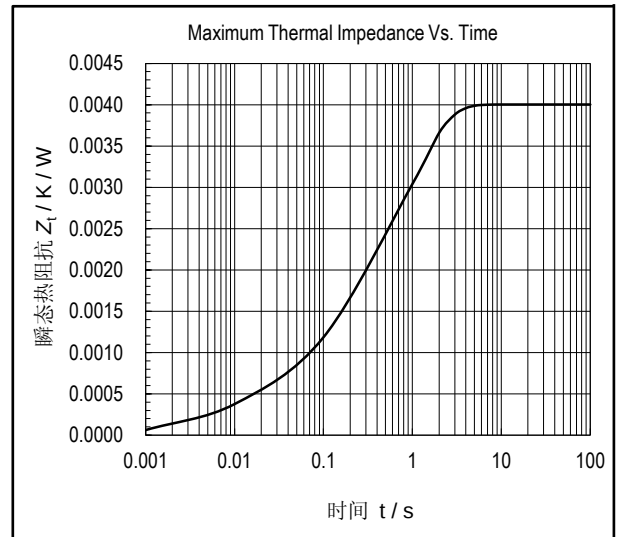


图2. 瞬态热阻抗曲线

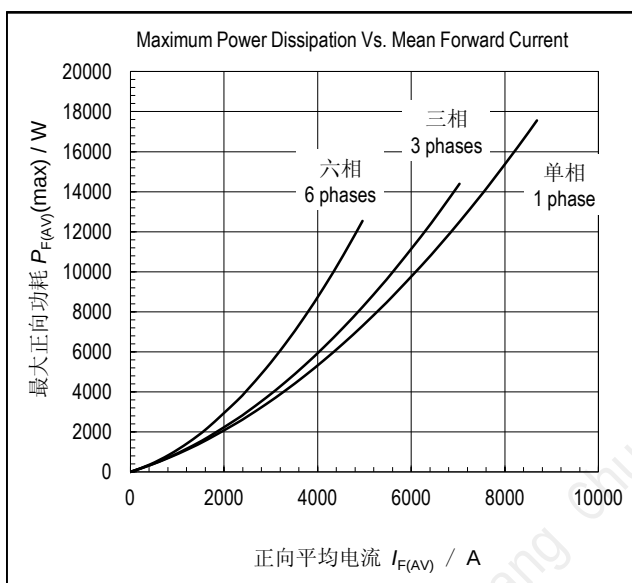


图3. 最大正向功耗与正向平均电流的关系曲线

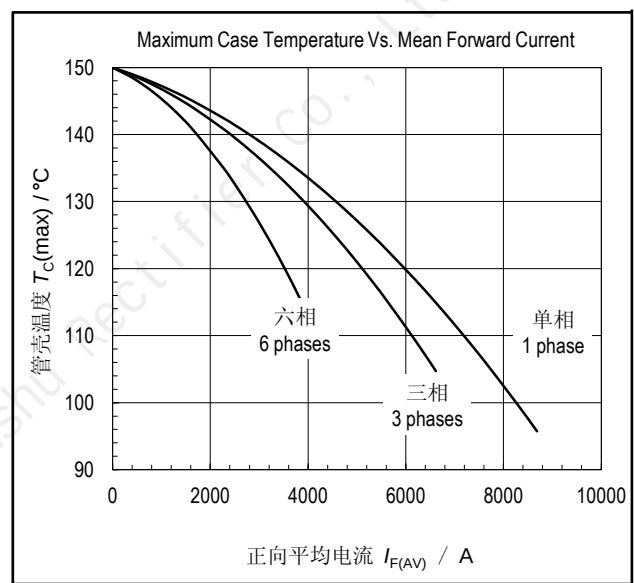


图4. 管壳温度与正向平均电流的关系曲线

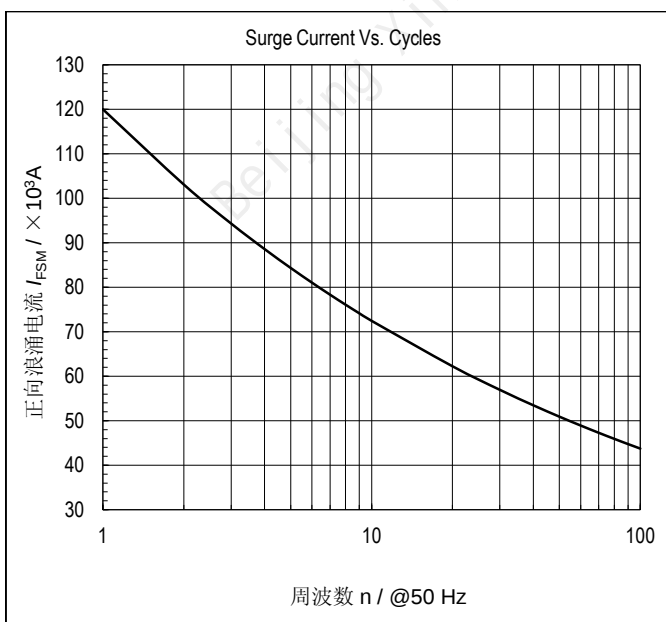


图5. 正向浪涌电流与周波数的关系曲线

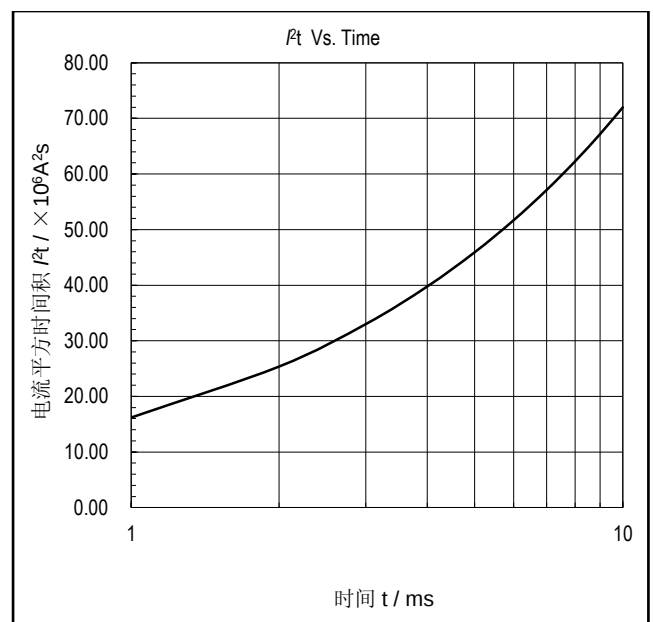


图6. I^2t 特性曲线